



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

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1 ATGAGCCAGC CCAGGCCCCG CTACGTGGTA GACAGAGCCG CATACTCCCT
51 TACCCTCTTC GACGATGAGT TTGAGAAGAA GGACCGGACA TACCCAGTGG
101 GAGAGAAACT TCGCAATGCC TTCAGATGTT CTCAGCCAA GATCAAAGCT
151 GTGGTGTTTG GGCTGCTGCC TGTGCTCTCC TGGCTCCCA AGTACAAGAT
201 TAAAGACTAC ATCATTCCCTG ACCTGCTCGG TGGACTCAGC GGGGGATCCA
251 TCCAGGTCCC ACAAGGCATG GCATTTGCTC TGCTGGCCAA CCTTCCTGCA
301 GTCAATGGCC TCTACTCCTC CTTCTTCCCC CTCCTGACCT ACTTCTTCCT
351 GGGGGGTGTT CACCAGATGG TGCCAGGTAC CTTTGCCGTT ATCAGCATCC
401 TGGTGGGTAA CATCTGTCTG CAGCTGGCCC CAGAGTCGAA ATTCCAGGTC
451 TTCAACAATG CCACCAATGA GAGCTATGTG GACACAGCAG CCATGGAGGC
501 TGAGAGGCTG CACGTGTCAG CTACGCTAGC CTGCCTCACC GCCATCATCC
551 AGATGGGTCT GGGCTTTCATG CAGTTTGGCT TTGTGGCCAT CTACCTCTCC
601 GAGTCCTTCA TCCGGGGCTT CATGACGGCC GCCGGCCTGC AGATCCTGAT
651 TTCGGTGCTC AAGTACATCT TCGGACTGAC CATCCCCTCC TACACAGGCC
701 CAGGGTCCAT CGTCTTTACC TTCATTGACA TTTGCAAAAA CCTCCCCCAC
751 ACCAACATCG CCTCGCTCAT CTTGCTCTC ATCAGCGGTG CTTTCTTGGT
801 GCTGGTGAAG GAGCTCAATG CTCGCTACAT GCACAAGATT CGCTTCCCA
851 TCCCTACAGA GATGATTGTG GTGGTGGTGG CAACAGCTAT CTCCGGGGGC
901 TGTAAGGCTG CCAAAAAGTA TCACATGCAG ATCGTGGGAG AAATCCAACG
951 CGGGTTCCCC ACCCCGGTGT CGCCTGTGGT CTCACAGTGG AAGGACATGA
1001 TAGGCACAGC CTTCTCCCTA GCCATCGTGA GCTACGTCAT CAACCTGGCT
1051 ATGGGCCCGA CCCTGGCCAA CAAGCACGGC TACGACGTGG ATTCGAACCA
1101 GGAGATGATC GCTCTCGGCT GCAGCAACTT CTTTGGCTCC TTCTTTAAAA
1151 TTCATGTATC TTGCTGTGCG CTTTCTGTCA CTCTGGCTGT GGATGGAGCT
1201 GGAGGAAAAT CCCAGGTGGC CAGCCTGTGT GTGTCTCTGG TGGTGATGAT
1251 CACCATGCTG GTCCTGGGGA TCTATCTGTA TCCTCTCCCT AAGTCTGTGC
1301 TAGGAGCCCT GATCGCTGTC AATCTCAAGA ACTCCCTCAA GCAACTCACC
1351 GACCCCTACT ACCTGTGGAG GAAGAGCAAG CTGGACTGTT GCATCTGGGT
1401 AGTGAGCTTC CTCTCCTCCT TCTTCTCAG CCTGCCCTAT GGTGTGGCAG
1451 TGGGTGTGCG CTTCTCCGTC CTGGTCTGGT TCTTCCAGAC TCAGTTTCGA
1501 AATGGCTATG CACTGGCCCA GGTGATGGAC ACTGACATT ATGTGAATCC
1551 CAAGACCTAT AATAGGGCCC AGGATATCCA GGGGATTAAA ATCATCACGT
1601 ACTGCTCCCC TCTCTACTTT GCCAACTCAG AGATCTTCAG GCAAAAGGTC
1651 ATCGCCAAGA CTGTCTCCCT GCAGGAGCTG CAGCAGGACT TTGAGAATGC
1701 GCCCCCACC GACCCCAACA ACAACCAGAC CCCGGCTAAC GGCACCAGCG
1751 TGCTCTATAT CACCTTCAGC CCTGACAGCT CCTCACCTGC CCAGAGTGAG
1801 CCACCAGCCT CCGCTGAGGC CCCC GGCGAG CCCAGTGACA TGCTGGCCAG
1851 CGTCCCACCC TTCGTACCT TCCACACCT CATCCTGGAC ATGAGTGGAG
1901 TCAGCTTCGT GGACTTGATG GGCATCAAGG CCCTGGCCAA GCTGAGCTCC
1951 ACCTATGGGA AGATCGGCGT GAAGGTCTTC TTGGTGAACA TCCATGCCCA
2001 GGTGTACAAT GACATTAGCC ATGGAGGCGT CTTTGAGGAT GGGAGTCTAG
2051 AATGCAAGCA CGTCTTTCCC AGCATACATG ACGCAGTCCT CTTTGCCAG
2101 GCAAATGCTA GAGACGTGAC CCCAGGACAC AACTTCCAAG GGGCTCCAGG
2151 GGATGCTGAG CTCTCCTTGT ACGACTCAGA GGAGGACATT CGCAGCTACT
2201 GGGACTTAGA GCAGGAGATG TTCGGGAGCA TGTTTCACGC AGAGACCCTG
2251 ACCGCCCTGT GA (SEQ ID NO:1)
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FEATURES:  
Start Codon: 1  
Stop Codon: 2260

FIGURE 1A



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**HOMOLOGOUS PROTEINS:**  
**Top BLAST Hits:**

	Score	E
gb AAF81911.1 AF279265_1 (AF279265) putative anion transpor...	476	e-133
gb AAF71715.1 AF230376_1 (AF230376) prestin [Meriones ungui...	471	e-131
ref NP_000432.1  pendrin [Homo sapiens] >gi 11421915 ref XP...	451	e-125
ref NP_035997.1  Pendred syndrome homolog (human); Pendred'...	448	e-124
ref NP_062087.1  Pendred syndrome homolog (human) [Rattus n...	447	e-124
ref NP_067328.1  down-regulated in adenoma [Mus musculus] >...	434	e-120
ref NP_000102.1  down-regulated in adenoma protein [Homo sa...	418	e-115
sp O70531 DTD_RAT SULFATE TRANSPORTER (DIASTROPHIC DYSPLASI...	365	1e-99
ref NP_000103.1  sulfate anion transporter 1; Diastrophic d...	362	1e-98
ref NP_031911.1  diastrophic dysplasia [Mus musculus] >gi 2...	357	4e-97

**BLAST to dbEST:**

	Score	E
gi 8630793 /dataset=dbest /taxon=960...	523	e-146

**EXPRESSION INFORMATION FOR MODULATORY USE:**

library source:

Expression information from BLAST dbEST hits:

gi|8630793 Human head-neck

Expression information from PCR-based tissue screening panels:

Human fetal lung

FIGURE 1B



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1 MSQPRPRYV DRAAYSLTLF DDEFKDKRT YPVGEKLRNA FRCSSAKIKA  
51 VVFGLLPVLS WLPKYIKDY IIPDLLGGLS GGSIQVPQGM AFALLANLPA  
101 VNGLYSSFFP LLTYFFLGGV HQMVPGTFAV ISILVGNICL QLAPESKFQV  
151 FNNATNESYV DTAAMEAERL HVSATLACLT AIIQMGLGFM QFGFVAIYLS  
201 ESFIRGFMTA AGLQILISVL KYIFGLTIPS YTGPGSIVFT FIDICKNLPH  
251 TNIASLIFAL ISGAFLVLVK ELNARYMHKI RFPIPTMIV VVVATAISGG  
301 CKMPKKYHMQ IVGEIQRGFP TPVSPVVSQW KDMIGTAFSL AIVSYVINLA  
351 MGRTLANKHG YDVSNQEMI ALGCSNFFGS FFKIHVICCA LSVTLAVDGA  
401 GGKSQVASLC VSLVVMITML VLGIIYLYPLP KSVLGALIAV NLKNSLKQLT  
451 DPYYLWRKSK LDCCIWVVSF LSSFFLSLPY GVAVGVAFSV LVVVFTQQR  
501 NGYALAQVMD TDIYVNPPTY NRAQDIQGIK IITYCSPLYF ANSEIFRQKV  
551 IAKTVSLQEL QQDFENAPPT DPNNNQTPAN GTSVSYITFS PDSSSPAQSE  
601 PPASAEAPGE PSDMLASVPP FVTFTLILD MSGVSFVDLM GIKALAKLSS  
651 TYGKIGVKVF LVNIHAQVYN DISHGGVFED GSLECKHVFP SIHDAVLFAQ  
701 ANARDVTPGH NFQGAPGDAE LSLYDSEEDI RSYWDEQEM FGSMFHAETL  
751 TAL (SEQ ID NO:2)

#### FEATURES:

##### Functional domains and key regions:

[1] PDOC00001 PS00001 ASN\_GLYCOSYLATION  
N-glycosylation site

Number of matches: 3

1 153-156 NATN  
2 156-159 NESY  
3 580-583 NGTS

[2] PDOC00005 PS00005 PKC\_PHOSPHO\_SITE  
Protein kinase C phosphorylation site

Number of matches: 2

1 45-47 SAK  
2 445-447 SLK

[3] PDOC00006 PS00006 CK2\_PHOSPHO\_SITE  
Casein kinase II phosphorylation site

Number of matches: 11

1 18-21 TLFD  
2 158-161 SYVD  
3 240-243 TFID  
4 365-368 SNQE  
5 459-462 SKLD  
6 556-559 SLQE  
7 635-638 SFVD  
8 691-694 SIHD  
9 722-725 SLYD  
10 726-729 SEED  
11 732-735 SYWD

[4] PDOC00007 PS00007 TYR\_PHOSPHO\_SITE  
Tyrosine kinase phosphorylation site

Number of matches: 2

1 7-15 RYVVDRAAY  
2 447-454 KQLTDPYY

FIGURE 2A



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[5] PDOC00008 PS00008 MYRISTYL  
N-myristoylation site

Number of matches: 10

1	77-82	GGLSGG
2	78-83	GLSGGS
3	89-94	GMAFAL
4	103-108	GLYSSF
5	335-340	GTAFLS
6	435-440	GALIAV
7	481-486	GVAVG
8	485-490	GVAFSV
9	581-586	GTSVSY
10	681-686	GSLECK

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	51	71	0.893	Putative
2	82	102	1.020	Certain
3	107	127	1.729	Certain
4	130	150	1.497	Certain
5	186	206	1.723	Certain
6	228	248	1.517	Certain
7	256	276	1.898	Certain
8	288	308	1.252	Certain
9	338	358	1.568	Certain
10	383	403	1.304	Certain
11	412	432	2.345	Certain
12	469	489	1.997	Certain
13	619	639	1.146	Certain

FIGURE 2B



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BLAST Alignment to Top Hit:

>gb|AAF81911.1|AF279265\_1 (AF279265) putative anion transporter 1 [Homo sapiens]

Length = 738

Score = 476 bits (1224), Expect = e-133

Identities = 263/724 (36%), Positives = 428/724 (58%), Gaps = 36/724 (4%)

Frame = +3

Query: 54 LFDDEFEEKDR--TYPVGEKLRNAFRCSAKIKAVVFGLLPVLSWLPKYKIKDYIIPDLL 227  
L + EE R + P + R +CS A+ A++ LPVL WLP+Y ++D+++ DLL  
Sbjct: 15 LNQEHLLEELGRWGSAPRTHQWRWLQCSRARAYALLLQHLPVLVWLPYRPVDRWLLGDLL 74

Query: 228 GGLSGGSIQVPQGMFAFALLANLPAVNGLYSSFFPLLTYYFFLGGVHQMPGTFAVISILVG 407  
GLS +Q+PQG+A+ALLA LP V GLYSSF+P+ YF G + GTFAV+S++VG  
Sbjct: 75 SGLSVAIMQLPQGLAYALLAGLPPVFGLYSSFYFVIYFLFGTSRHSISVGTFAVMSVMVG 134

Query: 408 NICLQLAPESKFQVFNATNESYVDTAAMEAERLHVSATLACLTAIQMGLGFMQFGFVA 587  
++ LAP+ A N+S ++ A +A R+ V++TL+ L + Q+GLG + FGFV  
Sbjct: 135 SVTESLAPQ-----ALNDSMINETARVQVASTLSVLVGLFQVGLGLIHFGFVV 186

Query: 588 IYLSSEFIRGFMTAAGLQILISVLKYIFGLTIPSYTGPISIVFTFIDICKNLPHTNIASL 767  
YLSE +RG+ TAA +Q+ +S LKY+FGL + S++GP S+++T +++C LP + + ++  
Sbjct: 187 TYLSEPLVRGYTTAAAVQVFVSQKLVFGLHLSHSGPLSLIYTVLEVCKWKL PQSKVQFV 246

Query: 768 IFALISGAFLVLVKELNARYMHKIRFPIPTMIVVVVATAISGGCKMPKHYHMQIVGEIQ 947  
+ A ++G LV+VK LN + ++ PIP E++ ++ AT IS G + ++ + +VG I  
Sbjct: 247 VTAAGVAGVVLVVKLLNDKLQQLPMPPIGELLTLIGATGISYGMGLKHFVDDVGNIP 306

Query: 948 RGFPTVPSPVVLQWKDMIGTAFSLAIVSYVINLAMGRTLANKHGYDVDSNQEMIALGCSN 1127  
G PV+P + ++G+AF++A+V + I +++G+ A +HGY VDSNQE++ALG SN  
Sbjct: 307 AGLVPPVAPNTQLFSKLVGSAFTIAVVGFAIAISLGKIFALRHGYRVDSNQEVLGLSN 366

Query: 1128 FFGSFFKIHVICCALSVTLAVDAGAGKSQVASLCVSLVVMITMLVLGIYLYPLPKSVLGA 1307  
G F+ + C++S +L + GG SQVA SL +++ ++ LG + LPK+VL A  
Sbjct: 367 LIGGIFQCFPVSCSMSRSLVQESTGGNSQVAGAISSLFILLIIVKLGELFHDLPKAVLAA 426

Query: 1308 LIAVNLKNSLKQLTDPYYLWRKSKLDCCIWVVSFLSSFFLSLPYGVAVGVAFSVLVVVFQ 1487  
+I VNLK L+QL+D LW+ ++ D IW+V+F ++ L+L G+ V V FS+L+VV +  
Sbjct: 427 IIIVNLKGMRLQLSDMRSLWKANRADLLIWLVTFTATILLNLDLGLVVAVIFSLLL VVR 486

Query: 1488 TQFRNGYALAQMVDTDIYVNPKTYNRAQDIQGIKIITYCSPLYFANSEIF----- 1637  
TQ + L QV DTDIY + Y+ A++++G+K+ + +YFAN+E +  
Sbjct: 487 TQMPHYSVLGQVPDTDIYRDVAEYSEAKEVRGVKFRSSATVYFANAEFYSDALKQRCGV 546

Query: 1638 -----RQKVIK--TVSLQELQQDFE--NAPPTDPNNNQTPAN--GTSVSYI----- 1760  
++K++ K + L++LQ++ + P N TS+ +  
Sbjct: 547 DVDFLISQKKLLKKQEQLKQLKQKEEKLKQAASPKGASVSINVNTSLEDMSRNNVED 606

Query: 1761 -----TFSPDSSSPAQSEPPASAEAPGEPDMLASVPPFVTFTLILDMSGVSFVDLMGI 1925  
S D A + ++AP + S + A P FH+LILD+ +SFVD + +  
Sbjct: 607 CKMMQVSSGDKMEDATANGQEDSKAP-DGSTLKALGLPQPDFHSLILDGALSFDVTVCL 665

Query: 1926 KALAKLSSTYKGIGVKVFLVNIHAQVYNDISHGGVFEDGSLECKHVFPSIHDAVLFAQAN 2105  
K+L + + +I V+V++ H+ V + + G F D S+ KH+F S+HDAV FA +  
Sbjct: 666 KSLKNIFHDFREIEVEVYMAACHSPVVSQLEAGHFF-DASITKKHLFASVHDAVTFALQH 724

Query: 2106 ARDV 2117  
R V  
Sbjct: 725 PRPV 728 (SEQ ID NO :4)

Hammer search results (Pfam):

Model	Description	Score	E-value	N
PF00916	Sulfate transporter family	254.5	1.5e-72	1
PF00189	Ribosomal protein S3, C-terminal domain.	3.3	8	1

FIGURE 2C



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Parsed for domains:

Model	Domain	seq-f	seq-t	hmm-f	hmm-t	score	E-value
PF00916	1/1	187	497 ..	1	328 [.]	254.5	1.5e-72
PF00189	1/1	651	661 ..	79	89 .]	3.3	8

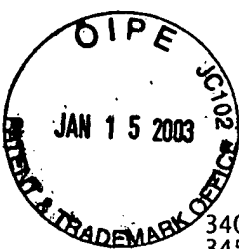
FIGURE 2D



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1	CTGGGTTCT	ATGTGGGGAG	GTCATGCTCC	CCACTCATTG	AGCCCCCCA
51	GGCAAACAC	CTGGACAGCC	AGACCCATGC	AGACTCTGGA	GCAGGTGGAG
101	AGGAAGAGTG	AGACCACCCC	GCCTCACGGG	CGGTGAAGGG	CCGGCAGCCT
151	CTGAATAGTC	TCTGCTAGGA	GGTAGAAAGC	ACCCTCCCAT	CTTAATCATA
201	GTAATCATCG	CCACTACCAT	TACTGGGTG	CCTATAAAAG	GCCAGCCTCT
251	TCATACACAT	GATCTCACTG	AATCCTCATA	GCATCTGCCT	GCGACTGTTA
301	TTATCCCCAT	TTACAGATGA	AGAAACTGAA	TCTTTGAACC	CAGGTCATCT
351	GGCTCTCAAA	CTTGTGCTGT	TTTCCCTAAG	CCACCCGGTC	TCTCATTTCT
401	CCCACTGAAA	TGTCTCACAT	GCCATTGCCC	TACTCATTT	CTGCCCATGT
451	CTCCTCCAAA	ACACCATTTA	TCAATTCGCT	CAACAAGTAT	GTGTTGAGTA
501	CACACTAAGG	GCCAGCGGAG	GGGCTGGGCA	CAGGCGCTGG	GGGTAGGTTT
551	ATTCTCCAC	CTTCGCTTCT	GCTGGGTATC	ACCTGTGGGG	TCTTGCCGGG
601	CATCCCACCC	TCACCTGTAG	TTCAAGTGGA	CCTTGGGATC	CCAAGACCAA
651	ATGAATGGAA	TGCACCAGCC	CAGCCTTCAC	CAACTTGAGC	ACAATCTTAT
701	TCATAATAGA	AACACACATT	TGCATCACAC	TTTACATTTT	ACACAACCCC
751	TTCTTATCCA	TTAACTCATT	TGATCTTCAC	AACAACCCCTG	TGAGATATGT
801	CTGTTACTCC	CACTTTAGTG	ATACAGAATC	TGAGGTTTGA	AAAGTAATGC
851	TGACCATTCT	GCCTCATTA	TAAAGCAGG	ATTAACCCAG	GCTCCTGGAC
901	CCTTCCACAA	AAGGCATTAA	GCAACCTGCT	CCCCTCTGAC	AACCTCCCCT
951	GTCACCCAGG	CTCTCCTCTG	GGAAGTTGGG	GGCATCTCTA	GGCCCCAAGT
1001	AGTTACTCAT	TTTCAACCCC	ATCTCAAATC	TTTTGCCAAA	CTGGCCACAG
1051	CCACCCACCA	CTCCCCACCT	CCCAGATACA	AATCCTCACT	CTAAGCCTTC
1101	CCCATCTCTT	TCTTCTCTGT	CCTTCTTTCT	CTGTGGTCCT	CTGAGCAACT
1151	TCTCCAGCT	CTGGGAGGTA	GAGGGGAGGT	GGGAGACCCA	GTAATTGGAA
1201	GAGGGAGGGG	GAAAGGTTCC	TACAGGGAAC	TCCTCCGGGC	CTCAGGGGCC
1251	CTGGCACTCA	GCTCTGCCCA	TCTCAGCTCC	TGGAACGTCA	GCCAGGTTGC
1301	GCAAAAAGTG	AGGAGGAGAG	GAGCGGAGT	ACACAAGGGT	GGGGGAAAGA
1351	TTAGGCACAG	GAAGCCGTGG	GAGAGAGAGC	CGGCAGGTGG	ACCATCCTGG
1401	TTTCCCCACA	CACACCATTG	TCCCCCTGGG	AAACCTGTTG	GTGAAGTTCT
1451	AGATGTCTTA	TCCAAGAAGG	GTCCTCTTGA	GGTCATCTCA	GCTATCCCCC
1501	TGCTCTAGG	CAAGCTGTTT	TCTGTTTCTT	CCAAGCTGAC	TGGCTGAATG
1551	GTAGGAGCCT	TTCTGCCAGG	GAAACTAAGG	TCTGGGAAGG	GAGTATGGCT
1601	TGTGGGGACA	CCAGGGGTCA	GGGGAGGGGA	GGGTCCACCT	GCTGAATCAA
1651	GTGGGGCCTC	CTGCCCTCGT	GATTCCCCCT	TGCCTGGTGC	TCAGTGGGGG
1701	TGATGGTGAC	GCCACAGGTG	TGGAGTGCCA	GCCACGTGCT	GAGCGCCAAG
1751	CAAAACAGCC	AGGGTGAGTC	TATGCATCAT	CAGTGCCTGG	GAAGGAAGGC
1801	CACTGCGAGC	AGGGAGTCTG	ACGGAAAAAC	TTGACAGAGG	GAAGGGAGGC
1851	ACCTTGCTTT	ATCGGGGGCG	GGAAGGCCAG	AATAAAATCT	TGCTACTGCA
1901	AGGACCAAGT	AGAGAAGGCC	TGGGCTGGCA	CTAGGGAGGG	ATGTTCCCTC
1951	ACCCTCCCCT	CCTCTGCTTC	TCCCAAAGCT	TGTAAATGCC	CCAGATATGA
2001	GCCAGCCCAG	GCCCCGCTAC	GTGGTAGACA	GAGCCGCATA	CTCCCTTACC
2051	CTCTTCGACG	ATGAGTTTGA	GAAGAAGGAC	CGGACATACC	CAGTGGGAGA
2101	GAAACTCTGC	AATGCCCTCA	GGTAACTGGT	CCAGAGCCCA	GACTTCTGCC
2151	TCCTCTGCTC	CCTACCAAAA	TCCTTTCTGC	ACCAGGACAC	GGCTTCTGCA
2201	CTGGTATCCC	TAAGATGGGG	TTAAGGGAAG	CCCTGGGGAA	GTGAGGTTCT
2251	GAATGATGAA	TTTAAGATCC	TACAACCTCA	TCTGTACTGA	GACCCCCAGG
2301	GAGGATGGGG	AGCAGGAGCA	AGAACCATCC	AGAAGGGTTA	TATGGCATT
2351	CCAAACCCCT	GCATGGCATC	TCCCATATTC	TCAATTCACC	CGGGTCTCTC
2401	TGGGTTTGT	AAGGCATGGT	AGATGAGCAT	CTACGTTATG	GAGGGGTGGG
2451	GAGCATCAGA	GCCCTTACTC	CATGCCCTGT	TCCCTCCTTA	CAAAAAATAC
2501	CTGAAGTTAC	CATCACCCCA	GGTTCTTTGT	CCTTTCCCTC	CCGGATGTTT
2551	CTTCTCTCAC	TTGGTCCAGA	GAATGCCAAA	AGGAGGCCCT	AAATTTCTGA
2601	ACTTTCTCTG	GGGGACCTAC	CAGGGTGTAG	TCCTACCAGC	GCCCAGGGTC
2651	TTTCCACTCT	CATCTCCCTG	GAAATGCGAT	GGTGGGTATG	AAACCTTGTC
2701	CCTAAGTAGG	CGCTACACAA	GGTGATCCAT	ACCCACACCC	CAGGAGGCTG
2751	GGGCTGCGGG	TGTCACCTCT	CCCATTCCCA	GACTCCTGGC	AGACCTCCTC
2801	TGGCCAGCT	ATAGGCCAAC	TCACTCTCCC	TCACTCCCTT	GGGGAAACGG
2851	CTGATTCACT	TACCTGGATT	GAGGTCACTG	GCAATGGCTG	AAGTGGAGAC
2901	GCAGGTGGAA	CTGGTTACAG	CCGGGGGAAT	CACCCACTTG	AGTTTGTACT
2951	AAAAGCCCCA	GCCCAGCCCT	GTTTCTCTTG	GGAGGCTCCA	TTTCTGCCCA
3001	GTTACAGTCT	GTCCTCACAG	CTGTGCTCCT	CAGACAGGTG	GTCTCTGCCA
3051	GTCTTTGTGC	CAAAGACTTT	AGGGCACAAA	GTCTGAGGAT	GAGAAGATCT
3101	GCTATTGTCC	TAAAAGATTA	GGATAATGAA	AGCTGTAAAG	GGATATAGCA
3151	AACTAACAA	TCCTATGATA	CTGGCATGAG	AGCCTTGAAC	AGTGCCTGGC
3201	ATAGAGAAGG	TGCACCAATA	AATATTTGTT	TCATGAATGA	ATGAATGAAT
3251	GAATGTCTAG	AAAGCTAATC	CCTCTCAGCC	TCTGTTTCCA	GTTCTTCTTT
3301	CAAGCTTCAG	ATTGCTTTGC	CCAACATACA	GCAGACTTGC	AAGTAAGGTT
3351	GGGCATGGAC	TAGCCCTCAA	ATGAGTTGTT	TTTCTTTCCC	TAGCCAGCTC

FIGURE 3A

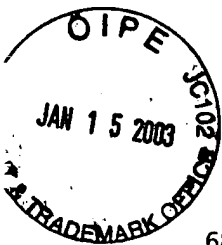


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3401	TCTATTGATA	AGTCCGGCTT	TCTCTGCCAC	AAACAGACCT	GATGGAGCCC
3451	CTGCAGGGCT	GGTCTCTCT	TCAAGCAAGG	CTTTAGAGTT	GCATTAAGCA
3501	ATTTATCCCC	CGTCCACCTC	CCCTTCCAGC	ATCCCAGGGA	TGGCAGAGGC
3551	ACCCATGAGC	CCCAGAAAGG	ACAGGGGGTA	AGATATTGAT	GATGATGCTT
3601	TTTCTTGAG	TGTTAGTTGG	AAGAGAAAAT	CTGCCCAGAC	TTTCCAAGGT
3651	ACAAAGCATT	GTCTTTGTTG	GTTTCAGTCT	TGGGTGACAT	CCAGGGGACC
3701	GAGTGTGAGG	GAAACTATTG	TTGAGCAAGA	GCAAAGAGCA	GGAATTGGTG
3751	CTGGGCAGGA	AAGGAAGGCT	CATCAGAGCA	GGCCAGTGAG	TCACCAAATG
3801	GGCCCTAAGT	ATTTGAGTTC	CCTCAACTGG	GAGAAGGAAA	GCAAATGCCC
3851	CTCACCCACT	TCCAGTCATC	AATCCACCGG	CTGTACCCTT	TGAGTTTGTA
3901	AGCCCTTGTT	CCTACCCTCT	CTGAGTTTCT	ATGAAAGGAC	CTTGAGGTGT
3951	TCAACAAACA	GGGAAGGGAT	CAACTCTCCC	CACCCTGCGT	TGACCAAATG
4001	ATTCTTCCCT	CCTCTGCTGC	CCAGTGAATT	AACAGGAGAA	AGAACTCCGG
4051	TATTGGAGTT	ACCACACATA	AAGGATAGTG	AGTCAGCAGA	GTGCACCCCTG
4101	CAGGAACAAT	AGAGCCTTCC	TTTTCAAGGA	AGTTCTAAGA	AAAATGGCAG
4151	CAGGCAGGCC	CCACTCGGGT	GTATTCACTC	ATTCAATTTAT	TCAACAAATA
4201	TTTACTAAGT	GCCCCTGTGC	AAGGCTCGAG	GTGTACAAAG	ATGAACAGGA
4251	GAGCTAGACT	TCTTGCCATG	CGTGGTGGGG	TTTGCTGCTT	AGTGGGAGAG
4301	ACAGACAAAA	AGCAAGGAAT	GCACACACAG	GATGCACACA	CAGCGGCAGG
4351	AACCAAGGTG	CAGTTACCCA	GGCCTGGGAT	CAGACAGACA	GGACTCAGAG
4401	GAGACTTTCC	CAGAGAAAAG	CCATCTGAGC	CAAGGGATGG	ATCTGATACC
4451	TCCGAAGGCT	GAGCCACCAT	AACACTCATA	CCTTTAAGCC	AAGTCTTATA
4501	AACTCCCCAG	GTAAGCAGCT	GGCAGTCAGA	AGACCTCCAG	CTAATGCCCA
4551	GGACAAGTTG	ATGAGCTCTC	AAGAAAAAGT	TCCTGCCTTT	TCTTCTCAAT
4601	ATCCCTGGCA	CACAGTTCAG	TGAATTTTGA	ATGAACCAAT	GAATGAAATG
4651	AGCAGGATAT	GATAATCCCT	CTCCAACACG	GAATGTCCAA	GCCATGCAGA
4701	GCCGACTGGA	AATTTTCCCC	GTTCCCTTCC	AGATGTTTCT	CAGCCAAGAT
4751	CAAAGCTGTG	GTGTTTGGGC	TGCTGCCTGT	GCTCTCCTGG	CTCCCCAAGT
4801	ACAAGATTAA	AGACTACATC	ATTCTTGACC	TGCTCGGTGG	ACTCAGCGGG
4851	GGATCCATCC	AGGTCCCACA	AGGTGAAGGG	GCTCCTTCAG	CCAGGCCTGG
4901	ATTGCCATCT	CCCTCACCAT	TCCTCTCCTC	ATCCCCACTC	CATCCCTCTG
4951	TGATCCCCAT	AAGCTAGTCA	TGCTGCTGAG	CTTCAGTCTC	GTTGCTCTCT
5001	GCAGGCATGG	CATTTGCTCT	GCTGGCCAAC	CTTCCTGCAG	TCAATGGCCT
5051	CTACTCCTCC	TTCTTCCCCC	TCCTGACCTA	CTTCTTCTCT	GGGGGTGTTT
5101	ACCAGATGGT	GCCAGGTAA	GCCTCTCCCC	TCTGGGCAGG	CAGGATGACC
5151	CAGACCACAA	GGATGGGAGG	TGTGGCAAAG	GGGCCTCGGG	AGATTTTCCA
5201	TCTGCATTCT	CCTGGAGTTG	TTCTTGCTCA	GTCTAGGGG	AATGGTCACT
5251	GTGAATGTCA	TTTCCAGGTC	CTCGGTGACC	TTGGAGAAAC	CACTGAGCCT
5301	CTTTGAGTTC	AGTTAGCATT	ACCTGTTCCA	TCTTCTCCTT	AGGAATGAGA
5351	GGAAGACTTA	GCAGAAACAG	ATATACCATA	TGCTATAACA	TGCTTAAACA
5401	GATGTGAGAA	ATCACCATCT	AACTCCCTGG	TTGGTCCCAG	CCGGCCACTA
5451	CAGGGACATT	TGGACTTCTC	TGGTGCTAAG	TGAGATGGAG	GAAAGCCTGG
5501	TCACAAGGGC	TGGTTTCTGG	TTCAAGGCTCT	GCTTATATTT	CTTATTTCTG
5551	AGTTCAATTT	CTCACGTGTC	CTGTATGACA	ATATTGACCA	TTGGGGTAAA
5601	AGCACCTTGA	AAAGCATAGA	TCATGGTTAG	AGTGAGTGGT	TGTTATTATT
5651	GTGTTGGAGA	AGAGCCTTGG	AGGTGCAGGG	ATCCATCCCC	CTGGGGTCCG
5701	GAAGCATCTC	TGGGCCCTT	TCTGGTTTCC	ATCGGTGTGG	TTCAAACCTC
5751	TGATTTTTCG	TGGCTGGGTG	GGGCACCACA	GGTACCTTTG	CCGTTATCAG
5801	CATCCTGGTG	GGTAACATCT	GTCTGCAGCT	GGCCCCAGAG	TCGAAATTCC
5851	AGGTCTTCAA	CAATGCCACC	AATGAGAGCT	ATGTGGACAC	AGCAGCCATG
5901	GAGGTGAGA	GGCTGCACGT	GTGAGTACG	CTAGCCTGCC	TCACTGCCAT
5951	CATCCAGGTG	AGGGGGCAGC	CCCCAACCTT	GCTAGAAGGG	CATCAGACCA
6001	CCCTGCCCCT	CCCTCAAAGC	CTTAGCTTTG	ATGCTAAATC	TGATTTAGGG
6051	GGCTGGGTGT	GGAGGCTCAT	GCCTGTAATC	CCAGCACTTT	GGGAGGCTGA
6101	GGAGGGTGGG	TCACTTGAGG	TCAGGAGTTT	GAGACCACCT	TGACCAACGT
6151	GATGAAACCC	CATCTCTACC	AAAAATACAA	AAATAATCCA	GGCTTGGTAG
6201	TATGCGCCTG	TAGTCCCACC	TACTCAGGAG	GCTGAGGCAG	GAGAATCACT
6251	TGAATCCGGG	AGGCAGAGGT	TGCAGTGAGC	TGAGATCGCG	CCACTGCACT
6301	CCAGCCTGGG	TGACAGAGCG	AGACTCCGTC	TCAAAAAAAA	AAAAAATAAA
6351	AAAAAATAAA	CCCAAGTTAG	GGCTCACCTC	CTCCCTCCTC	CCCATCCAG
6401	GGCTAAAGTG	AACCTTGAAA	ATTAACAGTA	TCTCCTCATC	TGCATGTAGC
6451	AGGACCATA	AAAAAATAAA	CAGCTGTACC	TGGTTAAACT	GTCCTGAGCT
6501	TTAAACCTGT	AAAAGACTCA	CAGCCTCTCT	CCATTATCCC	GTGGAGAAAC
6551	CCAACCTCT	GCCAGCATAG	TCTTGACAGC	TGCTAATTTT	CTCTAACATC
6601	CCTCACTCCG	CTCCAGCCTC	CTCTGCTCCA	AGCCACAGCA	GCAGTTGCAC
6651	AACATAAATT	GAGCTTCTGC	AAATGGTTGC	AAAGGATTCT	GCTAGGTTTT
6701	ATGAAGGGAA	GCACAACATG	ACAGAATGCA	AGAGCAAAAC	ACAGTCCCAG
6751	AGAGCGCCTT	TTCATTCACT	CATTCAATTCG	GTTTTGTGCC	AAGAACTAGG

FIGURE 3B





Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

6801 CTAAACCCTG GGATACAAAG ATAAGTAAGA AAGAGGTCCA ATTCACAAGT  
6851 TGCTCACAGC CCAGCAGAGG AAGGAGCCAT GTCAACAGAT AAATTTGTAT  
6901 GCAGTGAGAT AAGCAGCAAA GTAGAGCCAT GTACAAAGAC TGTAGGGACA  
6951 CAGAGCAGAG TCACGGAGGA CCTCAAAGAG GAGGTGACAC TCCACCTCTC  
7001 TTAAAGGATG AGAACTTAAC CAGGAACAAG GTATACAGAG GATGGTCCAG  
7051 GCAGAAGGGA ACAGTGCCTA AAAAFACTGA GGCCTGAGAG AGTGTGATCT  
7101 GCGCAGGCAA AGTAAGGGGC TTGGTGTGGC TGGAGGGTAG AGGGCCAGA  
7151 AGAGGATGGA AAAGTAGGCA GGAGCCAGAC AATGAGATCT GGGGTCTGTT  
7201 CTCTGACAGC GACTTTGGGT CTGATTGGCA GTTTATAAGG ATCGTTTGGG  
7251 CTACACAATG ATGAGTGGGA GGTGGATTAG AATCAAGGCA GGGGACCTGT  
7301 TGGGAGACTC TGCAGAGGCC CAGGCAGGAA TAATGCAGGC GAAGACCAGG  
7351 TAGAGAAAGA GATGGGGCTG GACTTGAAAA GAATGTTTTA CCAGGAGCTT  
7401 GGTGATAGAC TGGATGTGGG AGGTAAGGGA GGATGACTCT CAAGTTTTTG  
7451 GTTGGGCAAC CAGGTTAATG ATGGTGTCTT TACTGAGAG AGAAAACT  
7501 GGGGGAGGAG TGACCTTATT TTACAGATA GCCAAAGCCA GAGAGGTGAT  
7551 GTGACAGAAA GGCCCATGCT CTAAAGGAGC TGAAGGTCTG ATGGCAGCCA  
7601 TGTAGAGCAC AGTGAAGGGC AGGTGAAGGT CACAGATGGT CCAATTCCT  
7651 CAAGCTACTG CTACGCTAGG ACTGCACGGA GCTCCAGACC TGCCTGTGTG  
7701 TGGGGCGGCT GCTGGAACCT ATTGGTCTTC CGCCACCAAC  
7751 CACCTTTTTC CTCCTCTCAG ATGGGTCTGG GCTTCATGCA GTTTGGCTTT  
7801 GTGGCCATCT ACCTCTCCGA GTCCTTCATC CGGGGCTTCA TGACGGCCGC  
7851 CGGCCTGCAG ATCCTGATTT CGGTGCTCAA GTACATCTTC GGACTGACCA  
7901 TCCCCTCCTA CACAGGCCCA GGGTCCATCG TCTTTGTGAG TCTGGGGATG  
7951 CACCCCTGCC ATTGGAGCAA GGCTCCAGCA GACACATGAG GAGGATGTAC  
8001 TGTTTTAAGA TGTCGTGAGC TCCTCATTGC AAGGGCTGGC TTAGCTGTTG  
8051 TTCAGAGAGG ATTCTGAGGG GGTTTCTGTC TTGGGAGGGT CAAAGTCATG  
8101 ACTCACAGAG GTTCTTGTA GTTAATACCT GCAGAAAAGA GCTGTACATT  
8151 CTCCGCGAGT TCCCCATTCT AGTGCCTCAA CCCCTCCCTG CCTGGAAAGT  
8201 CCTGCCTTAT GTCTAATCTC CATCCCTCCT CTTTCAGCCC AAACCTCTCT  
8251 AAAGAAAAAG AAAGCATTCC TTTTCTAGCA CAAGTTCCCC ATGTGCCTTT  
8301 TGGGAAAGGG CGGTGGCGCA CGGGACAGGG TTCCTGATCA GGGTTTTAAT  
8351 TCTGTCTTGG TGTGCCTCCA TTAGCTTTGA TGGCATCCCT TCCCTGGGTC  
8401 AGACACCCAA AGGTGGGGTA TTATGGGAAG AAGGGGTGGG AGCCTGTGAG  
8451 CATGATGCTC TTTCCCCCAG ACCTTCATTG ACATTTGCAA AAACCTCCCC  
8501 CACACCAACA TCGCCTCGCT CATCTTCGCT CTCATCAGCG GTGCCTTCT  
8551 GGTGCTGGTG AAGGAGCTCA ATGCTCGCTA CATGCACAA ATTCTGCTTC  
8601 CCATCCCTAC AGAGATGATT GTGGTAAGGA CCTTGTTTCA AGCTGGGATG  
8651 TTGGGGGGCC AGGCTGTGAG ACGAGGAAGC CCCTACCTTT CCTCACCCCA  
8701 TCCCCCTCAAC TGGCAGCCAG TGGGACAGGA AGTCAGTTGT GAATCCATCC  
8751 CATCCCCCGT ATGTGGCGTT TCCTCTCTTT CTACTGCTCT AATAATTCCC  
8801 CCTAAGGAGG CAGGGGAGTG GGATTGAGG TCCCCAGAGA AAAGGGAGAC  
8851 TTGAGAGAGA CGCCTGCCTT GGCCCCACCT TAGGGCCAAT CCCCATTTCT  
8901 CACTCTGGGG TTTGCAAGTG GTGGTGGCAA CAGTATATCT CGGGGGCTGT  
8951 AAGATGCCCA AAAAGTATCA CATGCAGATC GTGGGAGAAA TCCAACGCGG  
9001 GTGAGTCCAG GTGGCCCAAG AGCCTGGCCC ACCCGCACCT CATGCCCCAC  
9051 TAAGGCCTGA GCTCGGAGAG GGAGACAAGA TGAACCTTAT GAAAGTGACG  
9101 TCGAAAAGTG GAGTTAACAA ACGAGGCCCT ACCACATACT GGCCCGGGGA  
9151 CTGAGAAGGG CCGCACAACC AGCCAATGTA GGCTATTTTA TGAGAAATGA  
9201 GTCTTAACTG CCACACTCCC CTTATAAATC TCATTCAACT GATGCTGTTA  
9251 AACAAAGCCT CTCTGAACAG CCGCTTGCTG GCTCTTTGCC TTGCTCTAAT  
9301 GCATTGGTTC TTTGTCCATG TAGAAAAGGA ACTATTAGGT TCAACCAGAT  
9351 TCATGAAGCA TCCACTCTGT GCCAGGCACC ATGCTGGGCC CTGGGAGGAG  
9401 AGGGGTGACG CTTGTCCTGC AGGGTTGGAA CAGGCAAGGG AGGGAAGACC  
9451 ACATAGCACC AAAGGTCTAG GGGTCTGTGG ACTCGTGAGC ATACAGGGTT  
9501 CAGAATCTGG GAGTTAACAA ACGAGGCCCT ACCACATACT GGCCCGGGGA  
9551 CTTTGGGCAA GTTAGGTTCT CTCAGCCTCA GTTTCCTCCT TTGTAAAACA  
9601 GGAGTGATGG TCCCTACCCT ATGGGGTGGT GCTGAGGATT CAGACTGGAT  
9651 GGGATAACTT AGGCAAGAT CCCGGCACAC CATGGGGGCC TGGCTGGTCC  
9701 CTGTGGGCTG GTGAAGGACT TGGCTGCCCT CCCCACCTAC ACCCTTGGGT  
9751 TCTGCCTCCT TCCTGGCTCC TCGGCAGGTT CCCCACCCCG GTGTGCTGCTG  
9801 TGGTCTCACA GTGGAAGGAC ATGATAGGCA CAGCCTTCTC CCTAGCCATC  
9851 GTGAGCTACG TCATCAACCT GGCTATGGGC CGGACCCTGG CCAACAAGCA  
9901 CGGCTACGAC GTGATTGCA ACCAGGTAGC TCTGGCCACC CCCGGCAGGA  
9951 CTGGGCAGGA CAGGTCAACT CAGGCCTGGC ATGACATATC TTGGGTGGGG  
10001 AGATCATTGG GCTGAGGTGA GGCAGGCTGC CTCGAGTGTG GGGGATAGGG  
10051 GGTCTCTGTA CCCTAAGAGG CTGACCTCCT CTTGACTGGG AATGTGTGAC  
10101 TTTATAGCCA CTGGTCACT CTCAGTCTT AGGCCACAG TCCAGCTTGC  
10151 ATGCCTGACT GCACCTGGTC CCCGTGCCCC CCAGCCCCAC ACTGGCTTCT

FIGURE 3C



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

10201	AATCCTGTCC	CCTCCCTGCA	GGAGATGATC	GCTCTCGGCT	GCAGCAACTT
10251	CTTTGGCTCC	TTCTTTAAAA	TTTATGTGAT	TTGCTGTGCG	CTTTCTGTCA
10301	CTCTGGCTGT	GGATGGAGCT	GGAGGAAAAT	CCCAGGTGAG	CCTTGTTCTA
10351	GGGGAGTTGG	GGGGAGGTGG	TAAGAGAAAC	GTTGCCCCAA	AAAAGCCTGG
10401	GCACTGCAAG	CCAGGCCAGC	TCTTCTCCGA	CCCCTTCTTC	CCGTACTTAG
10451	TCTCCACTCC	ACCAAAGCCA	TGGATTGGAA	ATAAATCAAG	AGCAAAAAAT
10501	TCACACCTTC	CCTCTATCCC	CAACTCTTTC	TCGGAATAGG	TGGCCAGCCT
10551	GTGTGTGCT	CTGGTGGTGA	TGATCACCAT	GCTGGTCCTG	GGGATCTATC
10601	TGTATCCTCT	CCCTAAGGTA	AGAGCCCAGC	CATCGAGCAG	AAGTCAACGA
10651	AAGACTCCAA	TAAGAAACAAT	CCCTGAGAGT	TGTGTGGCAC	TTTACGGACC
10701	ACAAAGTGCC	ACTGTTGTCA	TACTTAGTCT	CAACCACAAA	CTGTGAGGTA
10751	GACAATGCAG	GTTTTATCCT	CCCCATTTTA	CAGGTGAAGG	AAACTGAGTC
10801	TGAGAGTCTA	AGTAACCTTG	TCCATAGTGA	GGCAGCTTAC	AGCGCAGGGC
10851	TGGTCCCAAA	CTCCAGCCTT	CTGGCCTCAG	AGTCTAATCC	CTAGGCAACA
10901	TTTGCACCTA	CCCACGAGTA	CCAGGCTCTT	ATATAGCCCA	GCTAGGAGGG
10951	CTCTAGGCAT	CGCTCATTTA	GAGATGAGGG	AAGAGAGATA	GGGAAAGGAT
11001	GGGGCCAGGA	AGGACCCCAT	GGCTCTAACG	CCAGCACTTT	CCAAACCTAA
11051	GGTCGAATGC	AGAGATTTGG	GGGATCAGCC	AGGGGAGGTG	TTCCAGAACT
11101	CCGTCTCTGT	CCTGCCAGGC	CTTGGGGTCG	GGTATGCGCA	GGAGGGCAAA
11151	AAGAAGGGGA	GACCCCTGGG	TCCTGGAGCA	ATGTTCTGCT	TCTCTAGTCT
11201	GTGCTAGGAG	CCCTGATCGC	TGTCAATCTC	AAGAACTCCC	TCAAGCAACT
11251	CACCGACCCC	TACTACCTGT	GGAGGAAAGAG	CAAGCTGGAC	TGTGTAAGTA
11301	TCGGGCAGCC	TCTGGGTACT	GGCCATGCCC	CTGCCCTCTC	CTCCAACCCC
11351	ACAGCCCTGT	CAGCCCTGTC	CTAACAATGA	ACCCTCTAGT	CTGCTGCTTC
11401	CTAATTAGCA	TGAGATGAGT	GGTTAAAAGT	CCGAGTTTCG	AAGTGAACAA
11451	TCCTATGTTT	AAACCCCTAAC	TCAGCCATCT	GCTGGCTCCA	TGGCCAATAG
11501	CAAGCCCCCT	AACCTTTCCC	AGTCTTGGTG	TCTTAACTGG	GCAAATGGTT
11551	ATTTTATGCT	CCTGCTCTCC	CAGGGTTTTT	TATGAAGAAG	AAGCAAGGTA
11601	ATACAAGTAA	ACATGTTGTC	TACATCGTAT	TTTATACTCA	ATAAAGCTTA
11651	GCTATGACTA	CTTTATGACA	TACAGCTTTA	AAAAACAAAA	GGAAATAGTT
11701	TGTATTTTAA	AAAAAAACCT	AGAACATAAA	GCCAGAGGAC	CAAAATCTTG
11751	AGCAAGTTAC	TAGACTTCCC	TGGGGTTCTA	TTTCTCATC	TGTAAATGGG
11801	GGTGAGACTC	ATGCAGTCAT	GGTTGCGTCA	AACGCTGGTT	CCGAGGATTA
11851	AATGAGATCC	CAGTGGGAAA	ACACCGCATG	AGCGCAAAAC	TTCTGCAAAC
11901	ATGACTTATT	GTCTTGATTA	GTCAACACT	CCACCGCATC	ATCCGCTGGG
11951	CATAGTAATG	AAGGCCAGTG	TGTTTTGACG	ACACTGCCTT	CTCTCCATTT
12001	AAGCCCCACC	ATAACCTATG	GGAGAGGATT	TACTAAACTT	TCTTAACGGT
12051	GATGAAACCA	AGGCTCAGAA	TGGTTAAGTA	AATTGTCAAA	GGCCACAGAG
12101	GTAGGGAGTG	GTAGAGTCTG	GATTAAGTCT	CCAAGTCCTG	GACTCCAGAC
12151	CTCTAGGCTG	TACTGTCTCA	TAGGGAAGCG	AGTCTCACCC	ACCTAGGGCA
12201	GAGAAGAAAA	TCCTTAAAGC	CAGAGAAGTG	AGTGGCTCAT	CTGTGGTCAC
12251	CCAGAGAGAC	AGTGATGAGG	ACAGGGAGAA	AAATTATACC	TCAGTTCCCA
12301	GCCCCAGGAT	CTGCTTTGAC	CATAACCCAA	CAAGCCCCCG	CTATGGTGGT
12351	ATTTCCCTTAG	GTTTATATGG	CGGCTTTTGT	TTCCATTTGA	TCTTCACAGC
12401	AATTCTCTAC	AGGAATCTGG	GCAGATTTAT	TTCTTTTAGA	GGAATTTCCA
12451	GGTCTTAAAA	TCTATAGGGG	GCAACTATCA	AAACTTCACC	CAATGTTGCC
12501	CCCTACCCAC	ACACAAAACC	AGGCCCCAG	CCGATCAGAA	AGCACTGCTG
12551	AGTCCCTGTC	AGGGCCACAG	CAGCTCGCTG	TGAGACAGAG	AGAGGGAACT
12601	CACATTTATT	GATCACCTAC	TGAGCATCCA	TCACTAGGCT	AGGACCGTCA
12651	CATTCCCTAA	CTTTTGAATC	CTTTTATGAG	GTAGGCATTA	TTATTCTCCT
12701	TTTGTTCAC	ATAGCCATTA	AAGAACAAAA	TTTGGGGCTG	GGTGTGCTGA
12751	CTCACACCTG	TGATCTAGCA	CTTTAGGGGG	CTGAGGCAGG	AGGATCGCTT
12801	GAAGTCAGGA	TTTCAAGGTC	AGCTTGGGCA	GCTTAGCGAG	AGCCGTCTCT
12851	AGAAAAATAT	AAAAGTTAGC	TGGGTGTGGT	GGCACGTGCC	TATAGTCCTA
12901	ACTATTGAGG	AAGGTTAGGC	GGGAGCACAA	CTTGGGTTCC	AGGGTTTGAG
12951	GCTCCAGTGA	GCTGATCTTG	CCACTGCACT	ACAGCCTGAG	CAACAGAGCA
13001	AGACCCTGTG	ACTCCAAAAA	CAACACAAAC	AACACATTTT	GAACCCAAAC
13051	AGATCTGACC	CAAGATGCAT	GCTCTTATAG	ATGCCACCTC	CCTGTGTGCT
13101	GGGGCTTCTA	CTAAAAACAC	AGACAAGATC	AGGCAACCAC	AGTCAATCTA
13151	AGGAAAGAG	GAAAGTGTA	CCAAAGCACA	AATACATAAA	ATATTGCAAA
13201	AATGCTATTT	AAAGAAAAAA	AAGAGAAGAG	AGGCTCTGAG	GTTGTAATAA
13251	CAGAGAATGG	CCTTGGCTAA	TCCAGGAAGA	CTTCCTGAAA	GAGGTTGTTT
13301	TTTCCCCAGG	TCTGCTTTTG	ACATCTCTCT	TTTCACAGTG	CATCTGGGTA
13351	GTGAGCTTCC	TCTCCTCTCC	CTTCCTCAGC	CTGCCCTATG	GTGTGGCAGT
13401	GGGTGTCGCC	TTCTCCGTCC	TGGTCTGGGT	CTTCAGACT	CAGTTGTAAG
13451	TGATAGCTTC	CGCCCTCCTA	GGCCACAGT	CGGTTCCCTG	GGCCAGCCCG
13501	CAAAGGGCTT	CCATGCCACG	GCCTGGCTTA	GTCACATGTA	CCTTCCACCT
13551	CTGGGCCTGG	CACTGGAGGT	GCTGCCAGGC	CCAAAGAGAG	CCCAACCCAG

FIGURE 3D



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

13601 CCAGGACTGT GGGCACAGTC TGGGCTGTTT GACTTCCCAT ATCTTGAAAA  
13651 CCCCAGAGAA AGCCAGCATA CTCTTGCTGG GGATGGCTGG GGAGAGGGCA  
13701 GTGGCAGAGA AAGGAGGGCA AGGGCAGGTG GTGAGATTCA ACATCCTTCC  
13751 AAAGACATTG CCAGAACCCC AAACCAAATG GGACCCACC CCAGGAGAGC  
13801 GCCAGGGTGG AAGACAGAAG CTGTGTTCTA CACACTGGGA GTATTACAGA  
13851 GAAGGGGTCT TGGCCAAGGC AGGGAGTACG CTGAATGTTG GGGGAATCCT  
13901 ATCTTCTCTT CTTGAGAACT CAGAACAAGG AAATGATGAC TTCAGGGCGA  
13951 CTCCCCACC ACTTCTCTCC CCGTCCCTGT GGTCTGGGAG  
14001 CTATGTCAAG GACCTGCCTG TCATCCTCAT AGTTATAGGA GGCCACAGGC  
14051 CACCAGACAT GTGTCTCCAG TGCAAAAAGA CAGACACAGC AAGTCTGGGG  
14101 GTGAGGACAG GACCCCATCC TACCTTGGCT CTGCCCCCGC CCCAGCAGGG  
14151 GCACCCCTCC AGGCCATGTG GCCATTAGCA TTCTCTTATG TTTTCTCTT  
14201 CCTGCTTCAT CCAGTCGAAA TGGCTATGCA CTGGCCCAAG TCATGGACAC  
14251 TGACATTTAT GTGAATCCCA AGACCTATAA TAGGGTAGGT AATTCAAGCT  
14301 TATGACCTCC TTCTTTTGCT CTGCACCACC CCAAGAAGAG GTTGCTTTTT  
14351 AAAGCCAATA AAGACATTTT TGCAACTTGA GCTCAGTCTC CCTGTACAG  
14401 GCCCAGGATA TCCAGGGGAT TAAATCATC ACGTACTGCT CCCCTCTCTA  
14451 CTTTGCCAAC TCAGAGATCT TCAGGCCAAA GGTTCATCGCC AAGGTAAGGC  
14501 TCAGTCCCTG GCGACCAGAG GCTCTGGACA GAGAGTGGCC GGAAAATGGA  
14551 AGCAGAAGGG CGGTGGGAGC TGAGAATAGG CCACTCCCAT AGAGGGTGGA  
14601 GGTCAAGATT GCTGTTGGCT CTCTCCCTGC AGACAGGCAT GGACCCCCAG  
14651 AAAGTATTAC TAGCCAAGCA AAAATACCTC AAGAAGCAGG AGAAGCGGAG  
14701 AATGAGGCCC ACACAACAGA GGAGGTCTCT ATTCATGAAA ACCAAGGTGA  
14751 ATGAAGGCCA GAAGCAGCCC CGTGCCCTGC TCTCCTGCCC ATTCTGATAC  
14801 TGCCCCCTGT TACTCATGGT ACCCTGGGGG CCCCCTTCC CACCCTGACA  
14851 GGCAAAGACA GAAAGTCTCT GGGAACACTG CCTGGTGGCC GCTGGGCATT  
14901 TTTCTTCTTT TTTTCTTTT TCTTTTATGA GATGGAATTT TGCTCTTGT  
14951 ACCCAGGCTT GAGTGCAATG GCGTTATCTT GGCTCACTGC AACCTCCACC  
15001 TCTGGGGTTC AAGCGATTCT CCTGCCTTAG CCTCCCAAGT CGCTGAGATT  
15051 ACAGGTGCCA CCACACCCAG CTAATTTTTG TATTTTTAGT AGATATTGGG  
15101 TTTCAACATG TTGGCCAGGC TGGTGTCAAA CTCCTGACCT CAGGTGATCC  
15151 ACCACCTTAA GCCTTCCAAA GTGCTGGGAT TACAAGCCTG AGCCACTGCG  
15201 CCCAGCCTGG GCATTTTTCT TCTTGATGA GGTGCTACCA TCTCCAGGG  
15251 AAGCCACTGA ACCCCCAAGG CCCTTCTCCA TTTTCTGGCT AAGATAGGAC  
15301 ATGGCCCATG GACTTTTGAA CAACCCAGAG GGGGAACAGC AGTGAATTC  
15351 CTGGGGAACC CAGGCAGCCC AGGGCTAGCA AGGCTGGGGT GGCCATGGCA  
15401 GTAATCCTTG TAATCCCAGC ACTTTAGGAG GCCGAGATGG GAGAATCACT  
15451 CTCATGAGTT CAGGAGTTG AGACCAGCCT GCCCAACGTG GCGAAACGCT  
15501 GTCTCTACTA AAAATACACA AAAATTAGCC AGGCGTGGTG GTGGGCACCT  
15551 GTAATCCCAG GCTCTCAGGA GGCTGAGGCA CGAGAATCAC TTGAACCCGG  
15601 GAGGCAGAGG TTGCAGTGAG CCGAGATAGT GCCACTGCAC TCCAGCCTAG  
15651 GCAACAGAGG GAGACTCTGT CTCAAGAAAT AAAGGAGCTC AGTGTCCCCG  
15701 GAGGGGCTTT CTCCCAGAGA GAGTGGGCTT GAGGCTTCAG TGCTCTCTT  
15751 GGCTGGGTCC TCTGACTTTG TCTGGGTTGT AGGAGACCAA GTTTGCAGGC  
15801 CCTGCCTAAG AAAGGGCTTT GGGAGAGGCC TCTCTGGTGG AGCTTTCAGG  
15851 GTCTGTGTTT ACCATCACCG AGGCGAGTTA TTCCCCTACA CCTACACCCT  
15901 CCATGCCCCT GCTTCAGTCA CAGCAAGGTC TGGCTCAGTC TGGTGGTCCC  
15951 TGACTCTGCC CACTGTCCCC ACCCTTCCAG ACTGTCTCCC TGCAAGGAGCT  
16001 GCAGCAGGAC TTTGAGAATG CGCCCCCAC CGACCCCAAC AACAACCAGA  
16051 CCCCAGGCTAA CGGCACCAGC GTGTCTCTATA TCACCTTCAG CCCTGACAGC  
16101 TCCTCACCTG CCCAGAGTGA GCCACCAGCC TCCGCTGAGG CCCCAGGCGA  
16151 GCCCAGTGAC ATGCTGGCCA GCGTCCCACC CTTCTGACCC TTCCACACCC  
16201 TCATCCTGGA CATGAGTGGA GTCAGCTTCG TGGACTTGAT GGGCATCAAG  
16251 GCCCTGGCCA AGGTGAGGCC CTCGGGGACA GCAAGCACCA CCCACTCCAC  
16301 CCCCTCCGCT CTGCTCTCCA CATTCCCTTT CTTGGGAGCC CTCATTTTCA  
16351 GAAGTCTGAG GAGGAAGCTC ACTGGGGAGA CTAACAGCTC CTAGGAATCC  
16401 CTCCTTTCCC CAGACGCCAC CAGGTTGAGA CATTCTCCAC AGAGCAGGCC  
16451 CAGACGGCCC ATGACAATGA GTGGCGGGAC AAGTCTACCA GAGTTTCAGG  
16501 CCCCTGTGCT CCCAACACCC CCAGCAGTGG CCATCCCAAG TCCCTCTCAG  
16551 CCATCCAGAA CCCACCCAGG TTCTCTGAGG AGGGTCCAGT TTGGCTCCTG  
16601 GTTCATGATC TGCTGCCCTT GTCCCTCATT CACCAGCCAC CCTAGGACAG  
16651 GAGAAGAAAT AATACCAAGT CCCCACACCA TCAGGCCAAA CAGAGAGCCC  
16701 ACGGGACACC TTGAATGAAT GTATCCATCT GATAACTTTC CAGCAGCCAC  
16751 CGCCAATGGC GGGAGTCAG AAACCTCAGA GCTGGCTCAG ATAGAGGCAA  
16801 GCCAGGGGAA CAATGGGCAC AGAGAGTGTT CGGACTGCCT TCACCATCAA  
16851 CCAGGCGCAG GGCAGGCCCC ATACCCAGCC TTGGGCTCA GCCGGCTTCC  
16901 TTAGCCAGTA TCTGGAGTCC AGGCCAGCCT TGGCTGAAGC TCTAGACTCC  
16951 CTGAGCCTCC ATCCTCCCCT GCAGCTTCTG TCTGAAGCCA CAAAGAAGTC

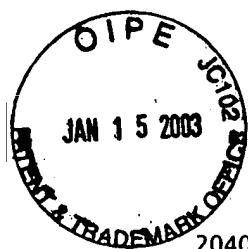
FIGURE 3E



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

17001	TGAGAATCTA	AGCTACTGAA	AGAAAAGATC	AGCCGGGCGT	GGTGGCTCAC
17051	TCCTGTAATC	CCAGCACTTT	GGGAGGCCAA	GGCAGGTGGA	TCACAAGGTC
17101	AGGAGTTCAA	GACCAGCCTG	GCCAACATGG	TGAAACCCCG	CCTCTACTAA
17151	AAATACAAAA	ATTAGCCAGG	TGTGGTGACG	GGCCCTGTGA	GTCCCAGCTA
17201	CTCGGTAGGC	TGAGGCAGAG	AATTGCTTGA	ACCCAGGAGG	CGGAGGTTGC
17251	AGTGAGCCAA	GATCGCGCCA	CTGCACTCCA	GCCTGGGCAA	CAGAGTGAAA
17301	CTCCATCTCA	AAAGAAAAAA	AAAGAAAAAT	TCTAGCCCCA	CAAGAAGGGG
17351	CCATGGTGAC	TTTAAGTGCC	CGCCACGTTG	GCAAAAGTCC	ATTTCCGCTC
17401	CACTTCCCAG	AGAAACCGTC	AGCCAACACT	CCAGGGAGAA	GTGGTGTGCT
17451	TTGCTGCTAT	TTTTGTCTTT	GGCTGCTGGG	CTCTCAGGGT	TGCTTATTTG
17501	TTTGGCTTCC	CCTCTGAAGT	ACGTTTTGTG	AATCACTTTT	GAGACCCACT
17551	CAGAACATTC	CTTTCCTTTT	GCCTCCCTAC	CCCAACAACA	CTTCTAGCTG
17601	AGCTCCACCT	ATGGGAAGAT	CGGCGTGAAG	GTCTTCTTGG	TGAACATCCA
17651	TGGTAAGAGA	AAGAGGACAT	TTAGGGACTG	AAAGACTGCG	AAGGAGTGTG
17701	GGGTAGGAAC	AGGTTGGTGG	GGTCTGAATA	GTGAGGAGGT	TGGAACGAG
17751	AGCAGCTGAC	ATTCCTCCAC	AAGCTGCTGC	CTGCTCATAA	AAGCTTCAGG
17801	TACAAGTCCA	AAGAGACTGG	TCAGATTGCA	TAAACATCCT	AGGGGCCCTA
17851	GTGACAGAGT	GGGGGTGAGG	AGGTCATGGA	GTTACAGAAG	GACAGCTAGG
17901	ATTCTAATCT	ACCCATAAAC	TAATTTGCCA	CGTATCCTTG	GCCGAGTCAC
17951	TTTATCTCTC	AAGGGATCTA	TTTCTACCTA	TGTA AAAACGA	GAGGGTTGAC
18001	TAGATGGATT	TGGGGATCCT	CTCCCAATCA	GAAACTCTGT	GAATCGATAT
18051	AGGCATAGAG	CACACGGTAC	CCTAATTCCC	CAGGGAACAT	ATAAATATGC
18101	AGTTTTGTAG	GCATACAGCC	TCCAAAGGGT	GCATATACAC	AGCCTCAAGG
18151	ACGTGGCCAC	AGGGCAGCAG	ACATTTACAT	GACTAGCATG	TACGCAAAGT
18201	GCAGAGATGT	GGGAGCAAGT	GCACACAGAC	ACACAGGAGA	ATGTGAAGGG
18251	GCACATACAC	ACACACCCAG	CTCCCTGCAC	TGGGTGAGAC	CCCCCTCCAGC
18301	AGGGCTGCAG	TTCCCAAGCT	CCGCATGGCC	ACGTTGCGGG	AGAGAATCTG
18351	CAGTGGCAAT	GACCTGCTAT	GATATGTTCT	GGAGTTAGAA	GCAGTGGATT
18401	CTCCCCAACC	TCACTGGACA	CCCCCTTAGG	AAACCATCTC	TAGGATTAAG
18451	AGTAATCCAC	ACAAACTTCC	AATGCCACAC	ATTGGAAGTT	GCTGGAAAAGG
18501	TCTGGGAAAA	CAAGAGGAAG	GATGGGTCCT	TGGGGGATAG	AACTGGCAGC
18551	GGCCTCTTCA	AGGATGGCTT	AGGCTTTTCC	ACTCGAATCA	CCACAAAGTA
18601	CTGACTCCCT	AAATCAAAC	GCTTCTTCT	GCTCTGGGTT	GAAACTTCAG
18651	CATCCTCAAG	TTTCTGTTGC	CCTCTGCCGT	CCAGAACTGA	TATTGCACTG
18701	CCAATGCCAT	GGCCTCAGA	TACAGCAAGA	GCTGGGACCT	CAGGCCTCTC
18751	CCATCCCTGC	TCTGGTCTCA	CTATCTTCCC	CACCCCCAGC	TCCAATCCAC
18801	AATGGCTGTT	ATCTTTCTGA	AGGTGATCTT	TTCTCCTTCT	AGCCCAGGTG
18851	TACAATGACA	TTAGCCATGG	AGGCGTCTTT	GAGGATGGGA	GTCTAGAATG
18901	CAAGCACGTC	TTTCCCAGCA	TACATGACGC	AGTCTCTTTT	GCCCAGGCAA
18951	ATGCTAGAGA	CGTGACCCA	GGACACAAC	TCCAAGGGGT	AAGGTTCTTG
19001	CACCTGGGGA	ATCCTAGGCT	CCAAGGCACT	GAAATAGCAG	GACCAAGAGG
19051	CATTATTAGA	AAGAACACAG	GAGAAGGTTT	AAGTTCCAAT	ATCAAGTCTG
19101	CCATTTTCAGT	TTTCTGAATC	TGTTTCCTTA	TCTATAGAAT	GAGCACCATC
19151	AACTAACATT	ACCTACCTCT	CTGCATTTTT	CTTTTATTTT	GTTTTAGGGT
19201	TAAATGATAA	TTACATCTTT	TGTGTCACTT	GAAAGCACTT	TGTGTATTGT
19251	AAAAATTCTT	TATCAATATA	AGTTTTCTGG	TTGCACAAAC	ACCCAAAGCA
19301	TAGTAGAGCA	GGCCCACTCT	GCTGGCATCG	TTCCCTGCCT	CCTCCTCATC
19351	TCTTTCTAAA	GGGGGCTTTC	GGGAAGGGAG	GGGAGGGGAG	TAAGCCTACC
19401	CATTTTAACT	TACCGGAGCT	TAGAGATTTC	AGGCTGGTGA	GGGATAAAGA
19451	GATTGGGTCT	GAGTTTTGTC	TCAGCTTTTT	GACATTTAAT	TTACTAGCTC
19501	AGTAAGTCAT	ACAAATGGGA	TACAAATAAC	ACCATCTAAA	ACTCCAGAAG
19551	ACTGGGGAGT	CAGAAAAATC	CTACCTCCTT	GGGGTCCCTG	CCCAGATCCC
19601	CAGTCATCTC	TAGCCCTCAG	GGTCCCCTCC	CAGCTCAGCT	CCTGCCCTTG
19651	GCCTCCCAAG	ACTCTTGTTG	TGCCCCAGCC	CTGGGTAAAA	ACCTCCCCTG
19701	CCCTCTGTGG	GTCAATAAGAA	AGGCTTTTTCT	GGCCCTAGAG	CAATGATTTG
19751	CTCTTTGCCT	TAAGAGACTG	ATGAAGGTGA	AACCATCTGT	TCTAAGTGCT
19801	GAAAGACTGC	CCAGGAACAC	ACAGGGCGCT	GGCTCCTGCC	CTCCATGCCT
19851	AGAGGGAAAC	CCTGGGGAAA	CAACGGGCTT	TCCTGCTTCG	TGAAATTTGT
19901	CCGCAGAGCA	AAGAGGGAGA	TTCTGGAGGA	AGCTGCATTA	GTTGTTAGTG
19951	CCCTAATCAT	GTTCAGCTAC	TCTAGTTGGT	ATGTATACTT	GATTAGTCAT
20001	AGCACTTATA	AATAATTTAT	ATTTTATATA	ATATATACTT	ACATATTATA
20051	GACCATTTCAC	AGATACAAAT	CACACACATA	AACACACACC	TTTTCAACAG
20101	CATTGTGAGG	GACAAAGCAG	GCAAAGTGAG	GCTGGTTATC	AGACTTTAAC
20151	AGATTAGAAA	ATATATTTCC	AGGAGGACAG	GAATTTCCCA	AGGTCAGGCA
20201	GCTAGCCAAT	AGTTTTTCTA	AGCTGAGTAA	AACCTTCCCT	GCCTCTAACG
20251	GCCCCAAAG	GAGGGAAGAC	CGCGATACAC	ACCTGTCTGG	TATAAGGGGG
20301	AAGACCACAG	CCGTGCTGTT	TTTGTGAGG	AGGTAAGGGA	AGGGGCAAGA
20351	GGATAAGTCA	TGTGTCAGGA	AGCAGCGTCC	AACCAGAGCC	GGCCACCTGT

FIGURE 3F



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

20401	CCCTTTTCCT	GCCACCATGC	ACCAACTTTG	CTGTTTCAGTC	ACTGAAGCTC
20451	ATTCTGCACT	GGCTTCCTCC	CTTCCAGGCT	CCAGGGGATG	CTGAGCTCTC
20501	CTTGTACGAC	TCAGAGGAGG	ACATTTCGAG	CTACTGGGAC	TTAGAGCAGG
20551	TGAGCTGAGG	GAAGGGGCTG	TGAGGGTGGG	AGCAGGGCGA	AGAGGGGAAG
20601	GATGGGGTCC	CTGTCAAATA	CAAGGCGTTC	ACTCAGCTGT	CTCACCTCCA
20651	GCCCAGAGCA	GTCACATTCA	AGGCCACAAA	GATTTGTGGT	CATCTTTGTT
20701	TTTTTCTTT	TCCTTTTCTT	TTTTTTTTTT	TTTTAATTG	AGACAAAGTC
20751	TCACCTATC	ATCCAGACTG	GAATGCAGTG	GCATGATCTC	AGCTCACTGC
20801	AACCTCTGCC	TCCCGGGTTC	CAGAGGTTCT	CCTGCCTCAG	CCTCCCGAGT
20851	AGCTGGGACT	TCAGGCCTGC	GCCCAGCTAA	TTTTTGATTT	TTTAGTAGAG
20901	ACAGCTTTTC	ACCATGTTGG	CTGGGCTGGT	CTCGAACTTC	CGATCTCAAG
20951	CAATCTGCCT	GCCCTCGTCT	CCTAAGTGCC	TGGATTACAG	GCATAAGCCA
21001	CGATGCCTGG	CCTTTGTTTT	CATTCTTCTC	ACTCCCTGAA	AGGCATCGTG
21051	GGGAGAGGGT	GAGTCACTGG	ACCAAGTCCT	AGAGAACCAG	TATCTATTCT
21101	TATTCTCCAA	CACATCACCC	ACGTGACCCT	GAGCAAGCCA	CATACACCCT
21151	GGGCCCTAGT	TTTTATCATC	TGTGAAATTA	GGGGAAACAT	AGGTAATACC
21201	TGTCCCATCC	ACCACACAAG	ATTGGCAGGG	CAGTCACTTG	TTCTTTCATT
21251	AATTGAGCAG	GTATTTATGG	CGTACCTACT	GTTTGCCTGA	CACAGTTCAG
21301	GATGGGCACA	TAGCAGTGAG	CAAAACAAAG	GCCTCTGCCT	TTTAGAAACT
21351	TACGTTATGG	TAGAATAGAT	GGATTTNNNN	NNNNNNNNNN	NNNNNNNNNN
21401	NNNNNNNNNN	NNNNNNNNNN	NNNNNNGTCT	ACAAATGAAT	TATTATTGCA
21451	TGTGGACAAG	CCTTAAGAAC	TAAAAAATAT	GTGGCTGGGT	GCAATGGTTC
21501	ACACCTGTAA	TCCCAGCACT	TTGGGAGGCT	GAGGTGGGCG	GACCACCTGA
21551	GGTCAGGAGT	TTGAGACCAG	CCTGGCCAAC	ATGGCGAAAC	CCCCTCTCTA
21601	CTAAAAGCAC	AAAAATTAGC	CAGGCGTAGT	GGTGCATGCC	TGTAGTCCCA
21651	GCTACTCGGA	AGTCTGAGGC	ATGAGAATCA	CTTGAACCTG	GGAGGCAGAT
21701	GTTGCACTGA	GCCGAGATCG	TGCCACTGCA	CTCCAGCTTG	GGTGACAGAG
21751	CTAGACTGTC	TCAAAAACAA	ACAAACAAAA	CAAAACCTAA	AAGATATGTG
21801	GATATGAGGG	ATCACCATCC	CCATAGGGCC	CCTGGATTAA	CACCACCCCA
21851	CCAATGCCCT	GAATTAATAAG	AAACCAGATG	ACTAGGTTTG	GAGAAATCTG
21901	GCTTTGGGTC	TATGAGAAGT	AGTGTCTCTC	TTTGTGCCTC	TTCCCATTCT
21951	TTTTGACATT	GAGTCCCATG	GTGCTCTGAA	TCCGTCTCTC	ACAGTGCTGA
22001	TGGCAGGTGG	GACAGATTAG	AAAATAGAGC	TGGAGCCACA	GAGATTTGGC
22051	AGACTGATTT	CGGTGCCCTC	TTGGAATCTC	CAGCACATTC	CAAAAAGCCT
22101	GGATAGGACC	AAAATAGCTT	ATCAACGTGA	GAAAGGACTT	CAGAGCTTGT
22151	CTACTGCCAA	CCCTCATTTT	ACCCAATGAG	GAAAGTGAAG	CTATTAGGGG
22201	GCGAGGGACA	CGTGGAAGGT	CACACAGCAC	ACAGGAGGTG	ATTCACATGT
22251	AGATTTACAG	ACCTGCTCCT	GCCACGCTGG	ACTGGTTCAC	CTCCTAGGCT
22301	GACCTGCTC	CTCCCCTGTT	CACACACACT	CTCGCACACA	CACACACACA
22351	CACACACACA	CACAGGTGCT	TTGTTCTGGC	CAGGGGTTCC	TAGGGTCACC
22401	TCTTGTTTGC	AGCCACTGTG	ACCCCAACTG	GTCTAACCTC	TCTCTTCCCC
22451	TCCCACCTCC	TTCTGTGGT	TCCTGCAGGA	GATGTTCTGG	AGCATGTTTC
22501	ACGCAGAGAC	CCTGACCGCC	CTGTGAGGGC	TCAGCCAGTC	CTCATGCTGC
22551	CTACAGAGTG	CCTGGCACTT	GGGACTTCCA	TAAAGGATGA	GCCTGGGGTC
22601	ACAGGGGGTG	TCGGGCGGAG	GAAAGTGCAT	CCCCCAGAGC	TTGGGTTCTT
22651	CTCTCCTCTC	CCCCTCTCTC	CTCCCTTCCT	TCCCTCCCCG	CATCTCCAGA
22701	GAGAGCCTCT	CAGCAGCAGG	GGGGTGCTAC	CCTTACAGGA	GTGAGAGTCT
22751	GGTGAGCCCA	CTCTTACCCC	GTCAGGCCCT	GGCCGCAATG	GACAAGCCTC
22801	CTGCTCACTC	CACCCACCCC	ACCTCTGCCC	TGTCCTTGGC	AGCTGAAGGA
22851	CACCTTGACT	TCCAGCTTTT	ACGAGTGAGC	CAAAAACAGA	AGGACAAGTA
22901	CAACTGTGCT	GGCCTGCTGT	ACAAGCTTCA	AAAAGTGTCC	CAGAGCCCAC
22951	ACGGCTCGGT	GTCAGATGGT	GTCAGGCTGT	CACGGACATA	GGGATAAACT
23001	TGGTTAGGAC	TCTGGCTTGC	CTTCCCCAGC	TGCCTCAACT	CTGTCTCTGG
23051	CAGCTCTGCA	CCCAGGGACC	ATGTGCTCTC	CACACCCAGG	AGTCTAGGCC
23101	TTGGTAACTA	TGCGCCCCCC	GTCCATCATC	CCCAAGGCTG	CCCAAACCAC
23151	CACTGCTGTC	AGCAAGCACA	TCAGACTCTA	GCCTGGACAG	TGGCCAGGAC
23201	CGTCGAGACC	ACCAGAGCTA	CCTCCCCGGG	GACAGCCCAC	TAAGGTTCTG
23251	CCTCAGCCTC	CTGAAACATC	ACTGCCCTCA	GAGGCTGCTC	CCTTCCCCCTG
23301	GAGGCTGGCT	AGAAACCCCA	AAGAGGGGGA	TGGGTAGCTG	GCAGAAATCAT
23351	CTGGCATCCT	AGAAATAGAT	ACCAGTTATT	CTGCACAAAA	CTTTTGGGAA
23401	TTCTCTTTTG	CACCCAGAGA	CTCAGAGGGG	AAGAGGGTGC	TAGTACCAAC
23451	ACAGGGAAAA	CGGATGGGAC	CTGGGCCCAG	ACAGTCCCCC	TTGACCCACG
23501	GGCCCATCAG	GGAAATGCCT	CCCTTTGGTA	AATCTGCCTT	ATCCTTCTTT
23551	ACCTGGCAAA	GAGCCAATCA	TGTTAACTCT	TCCTTATCAG	CCTGTGGCCC
23601	AGAGACACAA	TGGGGTCCTT	CTGTAGGCAA	AGGTGGAAGT	CCTCCAGGGA
23651	TCCGCTACAT	CCCCTAACTG	CATGCAGATG	TGGAAAGGGG	CTGATCCAGA
23701	TTGGGTCTTC	CTGCACAGGA	AGACTCTTTA	ACACCTTAG	GACCTCAGGC
23751	CATCTTCTCC	TATGAAGATG	AAAATAGGGG	TTAAGTTTTT	CATATGTACA

FIGURE 3G



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

23801 AGGAGGTATT GAGAGGAACC C TACTGTTGA CTTGAAAATA AATAGGTTCC  
23851 ATGTGTAAGT GTTTTGTAAG ATTTTCAGTGG AAATGCACAG AAAATCTTCT  
23901 GGCCTCTCAT CACTGCTTTT CTCAAGCTTC TTCAGCTTAA CAACCCCTTC  
23951 CCTAACACGT TGGGCTGGCC CAGCCTAGGA AAACATCCCC ATTTCTAACT  
24001 TCAGCCAGAC CTGCGTTGTG TGTCTGTGTG TTGAGTGAGC TGGTCAGCTA  
24051 ACAAGTCTTC TTAGAGTTAA AGGAGGGGGT GCTGGCCAAG AGCCAACACA  
24101 TTCTTGGCCC AGGAGCATTG CTTTCTGTG AATTCAATTAT GCCATCTGGC  
24151 TGCCAATGGA ACTCAAACT TGGAAAGGCGA AGGACAATGT TATCTGGGAT  
24201 TCACCGTGCA CAGCACCCGA AGTGCCAAAT TCCAGGAGGA CAAGAGCCTT  
24251 AGCCAATGAC AACTCACTCT CCCCTACTCC ACCTCCTTCC AAGTCCAGCT  
24301 CAGGCCCAGG AGGTGGGAGA AGGTCACAGA GCCTCAGGAA TTTCCAAGTC  
24351 AGAGTCCCCT TTGAACCAAG TATCTAGATC CCCTGAGGAC TTGATGAAGT  
24401 GATCCTTAAC CCCCAAGTAA TCATTAACCC CCAGACCAGC CTCAGAACTG  
24451 AAGGAGATTG TTGACCCAGT GACCTGGAGT TGAGGCTCAG GGAGAGATCT  
24501 GCCACATGTC TGAGGGTTGC AGAGCC (SEQ ID NO:3)

FEATURES:  
Start: 1997  
Exon: 1997-2121  
Intron: 2122-4732  
Exon: 4733-4872  
Intron: 4873-5004  
Exon: 5005-5115  
Intron: 5116-5781  
Exon: 5782-5957  
Intron: 5958-7770  
Exon: 7771-7935  
Intron: 7936-8470  
Exon: 8471-8623  
Intron: 8624-8917  
Exon: 8918-9000  
Intron: 9001-9777  
Exon: 9778-9925  
Intron: 9926-10221  
Exon: 10222-10335  
Intron: 10336-10539  
Exon: 10540-10617  
Intron: 10618-11197  
Exon: 11198-11293  
Intron: 11294-13338  
Exon: 13339-13445  
Intron: 13446-14214  
Exon: 14215-14284  
Intron: 14285-14400  
Exon: 14401-14493  
Intron: 14494-15980  
Exon: 15981-16262  
Intron: 16263-17597  
Exon: 17598-17652  
Intron: 17653-18842  
Exon: 18843-18988  
Intron: 18989-20477  
Exon: 20478-20549  
Intron: 20550-22478  
Exon: 22479-22523  
Stop: 22524

CHROMOSOME MAP POSITION:  
Chromosome 1

ALLELIC VARIANTS (SNPs):

DNA				Protein		
Position	Major	Minor	Domain	Position	Major	Minor
48	C	G	Beyond ORF(5')			
132	G	A	Beyond ORF(5')			
724	A	C	Beyond ORF(5')			
1558	C	G	Beyond ORF(5')			

FIGURE 3H



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

1577	A	G	Beyond ORF(5')			
2487	C	A	Intron			
2634	T	C	Intron			
4352	A	G	Intron			
5157	A	C	Intron			
5658	A	T	Intron			
5945	T	C	Exon	180	T	T
6281	C	T	Intron			
6452	G	C	Intron			
6610	T	G	Intron			
7247	T	C	Intron			
7360	A	G	Intron			
7644	A	T	Intron			
8127	A	C	Intron			
8317	G	A	Intron			
9079	G	A	Intron			
9537	G	T	Intron			
12302	C	G	Intron			
12354	C	T	Intron			
12487	C	T	Intron			
13198	-	A	Intron			
13257	A	G	Intron			
14541	G	A	Intron			
14545	A	G	Intron			
15041	C	A	Intron			
15053	A	C	Intron			
15065	A	G	Intron			
15108	A	C	Intron			
16274	-	G	Intron			
17424	C	T	Intron			
17627	G	A	Exon	657	V	V
18427	T	C	Intron			
18813	C	G	Intron			
19035	T	C	Intron			
19182	T	C	Intron			
19508	-	G C	Intron			
19571	T	G C	Intron			
20147	T	G	Intron			
20180	G	A	Intron			
20584	A	T	Intron			
20717	T	C	Intron			
20894	A	G	Intron			
21787	-	A C	Intron			
22264	T	C	Intron			
22338	-	C A	Intron			
23363	T	C	Beyond ORF(3')			
23688	G	A	Beyond ORF(3')			
24210	A	C	Beyond ORF(3')			

Context:

DNA  
Position  
48

CTGGGTTCTATGTGGGGAGGTCATGCTCCCCACTCATTGAGCCCC  
[C,G]  
CAGGCAAACACCTGGACAGCCAGACCCATGCAGACTCTGGAGCAGGTGGAGAGGAAGAG  
TGAGACCACCCCGCCTCACGGGCGGTGAAGGGCCGGCAGCCTCTGAATAGTCTCTGCTAG  
GAGGTAGAAAGCACCTCCCATCTTAATCATAGTAATCATCGCCACTACCATTCTACTGGG  
TGCCTATAAAAGGCCAGCCTCTTCATACACATGATCTCACTGAATCCTCATAGCATCTGC  
CTGCGACTGTTATTATCCCCATTTACAGATGAAGAACTGAATCTTTGAACCCAGGTCAT

132 CTGGGTTCTATGTGGGGAGGTCATGCTCCCCACTCATTGAGCCCCCAGGCAAACAC  
CTGGACAGCCAGACCCATGCAGACTCTGGAGCAGGTGGAGAGGAAGAGTGAGACCACCC  
GCCTCACGGGC  
[G,A]  
GTGAAGGGCCGGCAGCCTCTGAATAGTCTCTGCTAGGAGGTAGAAAGCACCTCCCATCT  
TAATCATAGTAATCATCGCCACTACCATTCTACTGGGTGCCTATAAAAGGCCAGCCTCTTC  
ATACACATGATCTCACTGAATCCTCATAGCATCTGCCTGCGACTGTTATTATCCCCATTT

FIGURE 3I



724

ACAGATGAAGAACTGAATCTTTGAACCCAGGTCATCTGGCTCTCAAACCTGTGCTGTTT  
TCCCTAAGCCACCCGGTCTCTCATTTCTCCCACTGAAATGTCTCACATGCCATTGCCCTT

ATTGCCCTTACTCATTTCTGCCCATGTCTCTCCAAAACACCATTTATCAATTGCTCAA  
CAAGTATGTGTTGAGTACACACTAAGGGCCAGGCGAGGGGCTGGGCACAGGCGCTGGGG  
TAGGTTCAATTCTCCACCTTCGCTTCTGCTGGGTATCACCTGTGGGGCTTGGCCGGGCAT  
CCCACCTCACCTGTAGTTCAAGTGGACCTTGGGATCCCAAGACCAATGAATGGAATGC  
ACCAGCCAGCCTTCACTAATTTGAGCACAATCTTATTATAATAGAACTCACATTTGC  
[A,C]  
TCACACTTTACATTTTACACAACCCCTTCTTATCCATTAACCTATTTGATCTTACACA  
ACCTGTGAGATATGTCTGTTACTCCCACTTTAGTGATACAGAATCTGAGGTTTGAAAAG  
TAATGCTGACCATTTCTGCCTCATTAAATAAAAGCAGGATTAACCCAGGCTCCTGGACCTT  
CCACAAAAGGCATTAAGCAACCTGCTCCCTCTGACAACCTCCCTGTACCCAGGCTCT  
CCTCTGGGAAGTTGGGGGCATCTCTAGCCCCAAGTAGTTACTCATTTTCAACCCCATCT

1558

TCAGCTCTGCCCATCTCAGCTCCTGGAACGTGAGCCAGGTTGCGCAAAAAGTGAGGAGGA  
GAGGAGCGGCAGTACACAAGGGTGGGGGAAAGATTAGGCACAGGAAGCCGTGGGAGAGAG  
AGCCGGCAGGTGGACCATCCTGGTTTCCCCACACACACCATTTGCCCCCTGGGAAACCTG  
TTGGTGAAGTTCTAGATGTCTTATCCAAGAAGGGTCTCTTGGGTGATCTCAGCTATCC  
CCCTGCCTCTAGGCAAGCTGTTTTCTGTTTCTTCCAAGCTGACTGGCTGAATGGTAGGAG  
[C,G]  
CTTTCTGCCAGGGAACTAAGGTCTGGGAAGGGAGTATGGCTTGTGGGGACACCAGGGGT  
CAGGGGAGGGGAGGGTCCACCTGCTGAATCAAGTGGGGCCTCCTGCCCTCGTGATTCCCC  
TTTGCTGCTGCTCAGTGGGGGTGATGGTGACGCCACAGGTGTGGAGTGCCAGCCACGTG  
CTGAGCGCAAGCAAAAAGCCAGGGTGAAGTCTATGCATCATCAGTGCCTGGGAAGGAAG  
GCCACTGCGAGCAGGGAGTCTGACGGAAGAACTTACAGAGGGAAGGGAGGCACCTTGCT

1577

CTCCTGGAACGTGAGCCAGGTTGCGCAAAAAGTGAGGAGGAGAGGAGCGGCAGTACACA  
GGGTGGGGGAAAGATTAGGCACAGGAAGCCGTGGGAGAGAGAGCCGGCAGGTGGACCATC  
CTGGTTTCCCCACACACACCATTTGCCCCCTGGGAAACCTGTTGGTGAAGTTCTAGATGT  
CTTATCCAAGAAGGGTCTCTTGGAGTCTCAGCTATCCCCCTGCCTCTAGGCAAGCT  
GTTTTCTGTTTCTTCCAAGCTGACTGGCTGAATGGTAGGAGCCTTTCTGCCAGGGAACT  
[A,G]  
AGGTCTGGGAAGGGAGTATGGCTTGTGGGGACACCAGGGGTGAGGGGAGGGGAGGGTCCA  
CCTGCTGAATCAAGTGGGGCCTCCTGCCCTCGTGATTCCCCCTTGCCTGGTGCTCAGTGG  
GGGTGATGGTGACGCCACAGGTGTGGAGTGCCAGCCACGTGCTGAGCGCCAAGCAAAAACA  
GCCAGGGTGAAGTCTATGCATCATCAGTGCCTGGGAAGGAAGGCCACTGCGAGCAGGGAGT  
CTGACGGAAGAACTTACAGAGGGAAGGGAGGCACCTTGCTTTATCGGGGCGGGGAAGGC

2487

ACACGGCTTCTGCACTGGTATCCCTAAGATGGGGTTAAGGGAAGCCCTGGGGAAGTGAGG  
TTCTGAATGATGAATTTAAGATCCTACAACCTCATCTGACTGAGACCCCAAGGAGGAT  
GGGGAGCAGGAGCAAGAACCATCCAGAAGGGTTATATGGCATTCCCAAACCCCTGCATGG  
CATCTCCCATATTTCTCAATTCACCCGGGTCTCTCTGGGTTTGTAAAGGCATGGTAGATGA  
GCATCTACGTTATGGAGGGGTGGGGAGCATCAGAGCCCTTACTCCATGCCCTGTTCCCTC  
[C,A]  
TTACAAAAAATACCTGAAGTTACCATCACCCCAAGGTTCTTTGTCTTTCCCTCCCGGATG  
TTCTTTCTCCACTTGGTCCAGAGAATGCCAAAAGGAGGCCCTAAATTTCTGAATTTTCC  
TGAGGGGACCTACCAGGGTGTAGTCTTACCAGCGCCAGGGTCTTTTCACTCTCATCTCC  
CTGGAAATGCGATGGTGGGTATGAAACCTTGTCCCTAAGTAGGCGCTACACAAGGTGATC  
CATACCCACACCCCAAGAGGCTGGGGCTGCGGGTGTACCCTCCCCATTCCCAGACTCT

2634

AGGGTTATATGGCATTCCCAAACCCCTGCATGGCATCTCCCATATTCTCAATTACCCGG  
GTCTCTCTGGGTTTGTAAAGGCATGGTAGATGAGCATCTACGTTATGGAGGGGTGGGGAG  
CATCAGAGCCCTTACTCCATGCCCTGTTCCCTCCTTACAAAAAATACCTGAAGTTACCAT  
CACCCCAAGGTTCTTTGTCCTTTCCCTCCCGGATGTTCTTCTCCTCACTTGGTCCAGAGAA  
TGCCAAAAGGAGGCCCTAAATTTCTGAATTTCTGAGGGGACCTACCAGGGTGTAGTCC  
[T,C]  
ACCAGCGCCCAAGGGTCTTTCACTCTCATCTCCCTGGAAATGCGATGGTGGGTATGAAAC  
CTTGTCCCTAAGTAGGCGCTACACAAGGTGATCCATACCCACACCCCAAGGAGGCTGGGG  
TGCGGGTGTCCCTCCCCATTCCCAGACTCCTGGCAGACCTCCTTGCCCCAGCTATAG  
GCCAACTCACTCTCCCTCACTCCCTTGGGGAAACGGCTGATTAGTTACCTGGATTGAGG  
TCACTGGCAATGGCTGAAGTGGAGACGAGGTGGAACCTGGTTCAGGCCGGGGGAATCACC

4352

ATTGGAGTTACCACACATAAAGGATAGTGAGTCAGCAGAGTGCACCCTGCAGGAACAATA  
GAGCCTTCTTTTCAAGGAAGTTCTAAGAAAAATGGCAGCAGGCAGGCCCACTCGGGTG  
TATTAATCACTCATTATTTATCAACAAATATTTACTAAGTGCCCCCTGTGCAAGGCTCGAGG  
TGTAACAAAGATGAACAGGAGAGCTAGACTTCTTGCCATGCGTGGTGGGGTTTGTGCCTA  
GTGGGAGAGACAGACAAAAAGCAAGGAATGCACACACAGGATGCACACACAGCGGCAGGA

FIGURE 3J





Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

[A, G]  
CCAAGGTGCAGTTACCCAGGCCTGGGATCAGACAGACAGGACTCAGAGGAGACTTTCCCA  
GAGAAAAGCCATCTGAGCCAAGGGATGGATCTGATACCTCCGAAGGCTGAGCCACCATAA  
CACTCATACCTTTAAGCCAAGTCTTATAAACTCCCAAGGTAAGCAGCTGGCAGTCAGAAG  
ACCTCCAGCTAATGCCAGGACAAGTTGATGAGCTCTCAAGAAAAAGTTCTGCCTTTTC  
TTCTCAATATCCCTGGCACACAGTTCAGTGAATTTTGAATGAACCAATGAATGAAATGAG

5157  
ATCCAGGTCCCACAAGGTGAAGGGGCTCCTTCAGCCAGGCCTGGATTGCCACTCCCCTCA  
CCATTCTCTCCTCATCCCCACTCCATCCCTCTGTGATCCCATAGCTAGTCATGCTGC  
TGAGCTTCAGTCTCGTTGTCTCTGCAGGCATGGCATTGCTCTGCTGGCCAACCTTCT  
GCAGTCAATGGCCTCTACTCCTCTTCTCCCCCTCTGACCTACTTCTTCTGGGGGT  
GTTACAGATGGTGCCAGGTAAGGCCTCTCCCCTCTGGGCAGGCAGGATGACCCAGACC  
[A, C]  
CAAGGATGGGAGGTGTGGCAAAGGGGCTCGGGAGATTTTCCATCTGCATTCTCCTGGAG  
TTGTTCTGGTCACTCCTAGGGGAATGGTCACTGTGAATGTCAATTCAGGTCTCGGTG  
ACCTTGAGAAAACCACTGAGCCTCTTTGAGTTAGTTAGCATTACCTGTTCCATCTTCT  
CCTAGGAATGAGAGGAAGACTTAGCAGAAACAAGATATACCATATGCTATAACATGCTTAA  
ACAGATGTGAGAAATCACCATCTAACTCCCTGGTTGGTCCCAGCCGGCCACTACAGGGAC

5658  
TTAGCAGAAACAAGATATACCATATGCTATAACATGCTTAAACAGATGTGAGAAATCACCA  
TCTAACTCCCTGGTTGGTCCCAGCCGGCCACTACAGGGACATTTGGACTTCTCTGGTGCT  
AAGTGAGATGGAGGAAAGCCTGGTCACAAGGGCTGGTTTCTGGTTCAGGCTCTGCTTATA  
TTTCTTATTTCTGAGTTCATTTTCTCACGTGTCTGTATGACAATATTGACCATTGGGT  
AAAAGCACCTTGAAAAGCATAGATCATGGTTAGAGTGAGTGTTGTTATTATTGTGTTG  
[A, T]  
GAAGAGCCTTGGAGGTGCAGGGATCCATCCCCCTGGGGTCCGGGAAGCATTCTGGGCCCC  
TTTCTGGTTTCCATCGGTGTGGTTCAAACCTCTGATTTTGTGGCTGGGTGGGGCACCA  
CAGGTACCTTTGCCGTTATCAGCATCCTGGTGGGTAACATCTGTCTGCAGCTGGCCCCAG  
AGTCGAAATTCAGGTCTTCAACAATGCCACCAATGAGAGCTATGTGGACACAGCAGCCA  
TGGAGGCTGAGAGGCTGCACGTGTGAGTACGCTAGCCTGCCTCACTGCCATCATCCAGG

5945  
ATTATTGTGTTGGAGAAGAGCCTTGGAGGTGCAGGGATCCATCCCCCTGGGGTCCGGGAAG  
CATTCCTGGGCCCCCTTTCTGGTTTCCATCGGTGTGGTTCAAACCTCTGATTTTGTGGC  
TGGGTGGGGCACCACAGGTACCTTTGCCGTTATCAGCATCCTGGTGGGTAACATCTGTCT  
GCAGCTGGCCCCAGAGTCGAAATTCAGGTCTTCAACAATGCCACCAATGAGAGCTATGT  
GGACACAGCAGCCATGGAGGCTGAGAGGCTGCACGTGTGAGTACGCTAGCCTGCCTCAC  
[T, C]  
GCCATCATCCAGGTGAGGGGGCAGCCCCCAACCTGTAGAAAGGGCATCAGACCACCTG  
CCCCCTCCCTCAAAGCCTTAGCTTTGATGCTAAATCTGATTTAGGGGGCTGGGTGTGGAG  
GCTATGCTGTAAATCCAGCACTTTGGGAGGCTGAGGAGGGTGGATCACTTGAGGTGAGG  
AGTTTGAGACCACCTTGACCAACGTGATGAAACCCCATCTCTACCAAAAATACAAAATA  
ATCCAGGCTTGGTAGTATGCGCCTGTAGTCCCACCTACTCAGGAGGCTGAGGCAGGAGAA

6281  
GCTAGAAGGGCATCAGACCACCTGCCCTCCCTCAAAGCCTTAGCTTTGATGCTAAATC  
TGATTTAGGGGGCTGGGTGTGGAGGCTCATGCCTGTAATCCAGCACTTTGGGAGGCTGA  
GGAGGGTGGATCACTTGAGGTGAGGAGTTTGAGACCACCTTGACCAACGTGATGAAACCC  
CATCTCTACCAAAAATACAAAATAATCCAGGCTTGGTAGTATGCGCCTGATGCTCCACC  
TACTCAGGAGGCTGAGGCAGGAGAATCACTTGAATCCGGGAGGCAGAGGTTGCAGTGAGC  
[C, T]  
GAGATCGCGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTCCGTCTCAAAAAAAA  
AAAAAAAAAAAAAAAAAAAAAGTTAGGGCTCACCTCCTCCCTCCTCCCATCCCAGG  
GCTAAAGTGAACCTTGAAAATTAACAGTATCTCCTCATCTGCATGTAGCAGGACCATACA  
AAAAAACACAGCTGTACCTGGTTAACTGTCTGAGCTTTAAACCTGTAAAAGACTCAC  
AGCCTCTCTCATTATCCCGTGGAGAAACCAACTCTCTGCCAGCATAGTCTTGCACT

6452  
ATGAAACCCCATCTCTACCAAAAATACAAAATAATCCAGGCTTGGTAGTATGCGCCTGT  
AGTCCCACCTACTCAGGAGGCTGAGGCAGGAGAATCACTTGAATCCGGGAGGCAGAGGTT  
GCAGTGAGCTGAGATCGCGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTCCGTCT  
CAAAAAAAAAAAAAAAAAAAAAAAAAAAGTTAGGGCTCACCTCCTCCCTCCTCC  
CCATCCAGGGCTAAAGTGAACCTTGAAAATTAACAGTATCTCCTCATCTGCATGTAGCA  
[G, C]  
GACCATACAAAAAACACAGCTGTACCTGGTTAACTGTCTGAGCTTTAAACCTGTAA  
AAGACTCACAGCCTCTCTCATTATCCCGTGGAGAAACCAACTCTCTGCCAGCATAGTC  
TTGCAGACTGCTAATTTCTCTAACATCCCTCACTCCGCTCCAGCCTCCTCTGCTCCAAG  
CCACAGCAGCAGTTGCACAACATAAATTGAGCTTCTGCAAAATGGTTGCAAAGGATTCTGC  
TAGGTTTTATGAAGGGAAGCACACATGACAGAATGCAAGAGCAAAACACAGTCCCAGAG

6610  
GTGACAGAGCGAGACTCCGTCTCAAAAAAAAAAAAAAAAAAAAAAAAAAAGTTA

FIGURE 3K



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

GGGCTCACCTCCTCCCTCCTCCCCATCCAGGGCTAAAGTGAACCTTGAAAAATTAACAGT  
ATCTCCTCATCTGCATGTAGCAGGACCATACAAAAAACAACAGCTGTACCTGGTTAAAC  
TGTCCTGAGCTTTAAACCTGTAAAAGACTCACAGCCTCTCTCATTATCCCGTGGAGAAA  
CCCAACTCTCTGCCAGCATAGTCTTGACAGACTGCTAATTTTCTCTAACATCCCTCACTCC  
[T, G]  
CTCCAGCCTCCTCTGCTCCAAGCCACAGCAGCAGTTGCACAACATAAATTGAGCTTCTGC  
AAATGGTTGCAAAGGATTCTGCTAGGTTTTATGAAGGGAAGCACAACATGACAGAATGCA  
AGAGCAAAAACACAGTCCAGAGAGCGCCTTTTCACTCACTCATTCACTCGGTTTTGTGCC  
AAGAACTAGGCTAAACCCTGGGATACAAAGATAAGTAAGAAAGAGGTCCAATTACAAGT  
TGCTCACAGCCCAGCAGAGGAAGGAGCCATGTCAACAGATAAATTTGTATGCAGTGAGAT

7247 GACACAGAGCAGAGTCACGGAGGACCTCAAAGAGGAGGTGACACTCCACCTCTCTTAAAG  
GATGAGAACTTAACCAGGAACAAGGTATACAGAGGATGGTCCAGGCAGAAAGGGAACAGTG  
CCTAAAAACACTGAGGCCTGAGAGAGTGTGATCTGCGCAGGCAAAAGTAAGGGGCTTGGTG  
TGGCTGGAGGGTAGAGGGCCAGAGAGGATGGAAAAGTAGGCAGGAGCCAGACAATGAG  
ATCTGGGGTCTGTTCTCTGACAGCGACTTTGGGTCTGATTGGCAGTTTATAAGGATCGTT  
[T, C]  
GGGCTACACAATGATGAGTGGGAGGTGGATTAGAATCAAGGCAGGGGACCTGTTGGGAGA  
CTCTGCAGAGGCCAGGCAGGAATAATGCAGGCGAAGACCAGGTAGAGAAAGAGATGGGG  
CTGGACTTGAAAAGAATGTTTTACCAGGAGCTTGGTGATAGACTGGATGTGGGAGGTAAG  
GGAGGATGACTCTCAAGTTTTTGGTTGGGCAACCAGGTAAATGATGGTGTCACTTACTGA  
GAGAGAAAACACTGGGGGAGGACTAGACTTATTTTACAGATAAGCCAAAGCCAGAGAGGT

7360 AACAGTGCCTAAAAACACTGAGGCCTGAGAGAGTGTGATCTGCGCAGGCAAAAGTAAGGGG  
CTTGGTGTGGCTGGAGGGTAGAGGGCCAGAGAGGATGGAAAAGTAGGCAGGAGCCAGA  
CAATGAGATCTGGGGTCTGTTCTCTGACAGCGACTTTGGGTCTGATTGGCAGTTTATAAG  
GATCGTTTGGGCTACACAATGATGAGTGGGAGGTGGATTAGAATCAAGGCAGGGGACCTG  
TTGGGAGACTCTGCAGAGGCCAGGCAGGAATAATGCAGGCGAAGACCAGGTAGAGAAAAG  
[A, G]  
GATGGGGCTGGACTTGAAAAGAATGTTTTACCAGGAGCTTGGTGATAGACTGGATGTGGG  
AGGTAAGGGAGGATGACTCTCAAGTTTTTGGTTGGGCAACCAGGTAAATGATGGTGTCTAT  
TTACTGAGAGAGAAAACACTGGGGGAGGACTAGACTTATTTTACAGATAAGCCAAAGCCA  
GAGAGGTGATGTGACAGAAAGGCCCATGCTCTAAAGGAGCTGAAGGTCTGATGGCAGCCA  
TGTAGAGCACAGTGAAGGGCAGGTGAAGGTACAGATGGTCCAATCCCTCAAGCTACTG

7644 GACCAGGTAGAGAAAGAGATGGGGCTGGACTTGAAAAGAATGTTTTACCAGGAGCTTGGT  
GATAGACTGGATGTGGGAGGTAAGGGAGGATGACTCTCAAGTTTTTGGTTGGGCAACCAG  
GTTAATGATGGTGTCACTTACTGAGAGAGAAAACACTGGGGGAGGACTAGACTTATTTTA  
CAGATAAGCCAAAGCCAGAGAGGTGATGTGACAGAAAGGCCCATGCTCTAAAGGAGCTGA  
AGGTCTGATGGCAGCCATGTAGAGACAGTGAAGGGCAGGTGAAGGTACAGATGGTCCA  
[A, T]  
TTCCCTCAAGCTACTGCTACGCTAGGACTGCACGGAGCTCCAGACCTGCGTGTGTGGG  
GCGGGTGGTGGAACTGCTGAACCACATTGGTCTTCCGCCCAACCACCCTTTTCTCC  
TCTCAGATGGGTCTGGGCTTCATGCAGTTTGGCTTTTGGCCATCTACCTCTCCGAGTCC  
TTCATCCGGGGCTTCATGACGGCCGCCGCTGCAGATCCTGATTTGGTGTCTCAAGTAC  
ATCTTCGGACTGACCATCCCTCCTACACAGGCCAGGGTCCATCGTCTTTGTGAGTCTG

8127 CATCCGGGGCTTCATGACGGCCGCCGGCTGCAGATCCTGATTTGGTGCTCAAGTACAT  
CTTCGACTGACCATCCCTCCTACACAGGCCAGGGTCCATCGTCTTTGTGAGTCTGGG  
GATGCACCCCTGCCATTGGAGCAAGGCTCCAGCAGACATGAGGAGGATGACTGTTTT  
AAGATGTCGTGAGCTCCTCATTGCAAGGGCTGGCTTAGCTGTTGTTGAGAGAGGATTCTG  
AGGGGGTTTTCTGCTTGGGAGGGTCAAAGTCATGACTCACAGAGGTTCTTGGTAGTTAAT  
[A, C]  
CCTGCAGAAAAGAGCTGTACATTCTCCGCCAGTTCCTCATCTAGTGCCTCAACCCCTCC  
CTGCCTGGAAAGTCTGCCTTATGTCTAATCTCCATCCCTCCTCCTCAGCCCAAACCTCT  
CTAAAGAAAAAGAAAGCATTCTTTTCTAGCACAAGTTCCTCATGTGCCTTTTGGGAAA  
GGGCGGTGGGCGACGGGACAGGGTTCCTGATCAGGGTTTTAATTCTGTCTTGGTGTGCCT  
CCATTAGCTTTGATGGCATCCCTCCCTGGGTGAGACACCCAAAGGTGGGGTATTATGGG

8317 GAGCTCCTCATTGCAAGGGCTGGCTTAGCTGTTGTTGAGAGAGGATTCTGAGGGGGTTTT  
TGCTTTGGGAGGGTCAAAGTCATGACTCACAGAGGTTCTTGGTAGTTAATACCTGCAGAA  
AAGAGCTGTACATTCTCCGCCAGTTCCTCATCTAGTGCCTCAACCCCTCCCTGCCTGGA  
AAGTCTGCCTTATGTCTAATCTCCATCCCTCCTCCTCAGCCCAAACCTCTCTAAAGAA  
AAAGAAAGCATCTTTTCTAGCACAAGTTCCTCATGTGCCTTTTGGGAAAGGGCGGTGG  
[G, A]  
CGACGGGACAGGGTTCCTGATCAGGGTTTTAATTCTGTCTTGGTGTGCCTCCATTAGCTT  
TGATGGCATCCCTTCCCTGGGTGAGACACCCAAAGGTGGGGTATTATGGGAAGAGGGGT  
GGGAGCCTGTGAGCATGATGCTCTTTCCCCAGACCTTCATTGACATTTGCAAAAACCTC

FIGURE 3L



Docket No.: CL000861  
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Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

9079

CCCCACCAACATCGCTCGCTCATCTTCGCTCTCATCAGCGGTGCCTTCCTGGTGCTG  
GTGAAGGAGCTCAATGCTCGCTACATGCACAAGATTCGCTTCCCCATCCCTACAGAGATG

TTCTACTGCTCTAATAATTCCCCCTAAGGAGGCAGGGGAGTGGGATTGAGGGTCCCCAGA  
GAAAAGGGAGACTTGAGAGAGACGCCTGCCCTGGCCCCACCTTAGGGCCAATCCCCATTC  
TCCACTCTGGGGTTTGCAGGTGGTGGTGGCAACAGCTATCTCCGGGGGCTGTAAGATGCC  
CAAAAAGTATCACATGCAGATCGTGGGAGAAATCCAACGCGGGTGAGTCCAGGTGGCCA  
GAAGCCTGGGCCACCCGCACCTCATGCCCACTAAGGCCTGAGCTCGGAGAGGGAGACAA  
[G, A]  
ATGAACTCTATGAAAGTGCAGTCGAACTGTATGACACTGACCATGTATGAATTATTACT  
ATTACCGTTTCTGAGAAGGGCCGCACAACAGCCAATGTAGGCTATTTTATGAGAAATG  
AGTCTTAACTGCCCACTCCCCTTATAAATCTCATTCAACTGATGCTGTTAAACAAAGCC  
TCTCTGAACAGCCGCTTGTGGCTCTTGCCTTGCTCTAATGCATTGGTTCTTTGTCCAT  
GTAGAAAGGGAATATTAGGTTCAACAGATTATGAAGCATCCACTCTGTGCCAGGCAC

9537

AACTGATGCTGTTAAACAAAGCCTCTCTGAACAGCCGCTTGCTGGCTCTTTGCCTTGCTC  
TAATGCATTGGTTCTTTGTCCATGTAGAAAGGGAATATTAGGTTCAACAGATTATGAG  
AGCATCCACTCTGTGCCAGGCACCATGTGGGCCCTGGGAGGAGAGGGGTGACGCTTGTC  
CTGCAGGGTTGGAACAGGCAAGGGAGGGAAGACCACATAGCACCAAAGGTCTAGGGGTCT  
GTGGACTCGTGAGCATACAGGTTTCAAGTCTGGGAGTTAAACAAACGAGGCCCTACCACA  
[G, T]  
ACTGGCCCCGGGACCTTGGGCAAGTTAGGTTCTCTCAGCCTCAGTTTCTCTCTTTGTAAA  
ACAGGAGTGATGGTCCCTACCTATGGGGTGGTCTGAGGATTGAGCTGGATGGGATAA  
CTTAGGCAAAAGATCCCGCACACCATGGGGGCTGGCTGGTCCCTGTGGGCTGGTGAAGG  
ACTTGGCTGCCCTCCCCTCACACCCTTGGGTTCTGCCTCTTCTGGCTCTCGGCAG  
GTTCCCCACCCCGGTGTGCGCTGTGGTCTCACAGTGAAGGACATGATAGGCACAGCCTT

12302

AGCCCCACCATAACCTATGGGAGAGGATTTACTAACTTTCTTAACGGTGATGAAACCAA  
GGCTCAGAATGGTTAAGTAAATTGTCAAAGGCCACAGAGGTAGGGAGTGGTAGAGTCTGG  
ATTAAGAACTCCAAGTCTGGACTCCAGACCTTAGGGCTGACTGTCTCATAGGGAAGGCA  
GTCTCACCCACCTAGGGCAGAGAAGAAAATCCTTAAAGCCAGAGAAGTGAGTGGCTCATC  
TGTGGTCAACCCAGAGAGACAGTGATGAGGACAGGGAGAAAAATTATACCTCAGTCCAG  
[C, G]  
CCAAGGATCTGCTTTGACCATAACCCAAACAGCCCCCGCTATGGTGGTATTTCTTAGGT  
TCATATGGCGGCTTTTGTTCATTTGATCTTACAGCAATTCTCTACAGGAATCTGGGC  
AGATTTAATTTCTTTAGAGGAATTTCCAGGTCTTAAATCTATAGGGGGCAACTATCAAA  
ACTTACCCCAATGTTGCCCCCTACCCACACACAAAACAGGCCCCAGCCGATCAGAAAG  
CACTGCTGAGCTCCTGTGAGGGCCACGCAGCTCGCTGTGAGACAGAGAGAGGGAATCA

12354

GAAACCAAGGCTCAGAATGGTTAAGTAAATTGTCAAAGGCCACAGAGGTAGGGAGTGGTA  
GAGTCTGGATTAAACTCCAAGTCTGGACTCCAGACCTTAGGCTGACTGTCTCATAG  
GGAAGGCAGTCTCACCCACCTAGGGCAGAGAAGAAAATCCTTAAAGCCAGAGAAGTGAGT  
GGCTCATCTGTGGTCACCCAGAGAGACAGTGATGAGGACAGGGAGAAAAATTATACCTCA  
GTTCCAGGCCAAGGATCTGCTTTGACCATAACCCAAACAGCCCCCGCTATGGTGGTATT  
[C, T]  
CCTTAGGTTTCATATGGCGGCTTTTGTTCATTTGATCTTACAGCAATTCTCTACAGGA  
ATCTGGGCAGATTTATTTCTTTAGAGGAATTTCCAGGTCTTAAATCTATAGGGGGCAA  
CTATCAAAACTTCAACCAATGTTGCCCTTACCCACACACAAAACAGGCCCCAGCCGA  
TCAGAAAGCACTGCTGAGCTCCTGTGAGGGCCACGCAGCTCGCTGTGAGACAGAGAGAG  
GGAACCTACATTTATTGATCACCTACTGAGCATCCATCACTAGGCTAGGACCGTCACATT

12487

ACCCACCTAGGGCAGAGAAGAAAATCCTTAAAGCCAGAGAAGTGAGTGGCTCATCTGTGG  
TCACCCAGAGAGACAGTGATGAGGACAGGGAGAAAAATTATACCTCAGTTCACAGCCCAA  
GGATCTGCTTTGACCATAACCCAAACAGCCCCCGCTATGGTGGTATTTCTTAGGTTTCT  
ATGGCGGCTTTTGTTCATTTGATCTTACAGCAATTCTCTACAGGAATCTGGGCAGAT  
TTATTTCTTTAGAGGAATTTCCAGGTCTTAAATCTATAGGGGGCAACTATCAAAACTT  
[C, T]  
ACCCATGTTGCCCTTACCCACACACAAAACAGGCCCCAGCCGATCAGAAAGCACTG  
CTGAGCTCCTGTGAGGGCCACGCAGCTCGCTGTGAGACAGAGAGAGGGAACCTACATTT  
ATTGATCACCTACTGAGCATCCATCACTAGGCTAGGACCGTCACATTCCTTAACTTTTGA  
ATCCTTTTATGAGGTAGGCATTATTATTCTCTTTTGTTCACATAGCCATTAAAGAACA  
AAATTTGGGGCTGGGTGTGCTGACTCACCTGTGATCTAGCACTTAGGGGGCTGAGGC

13198

CTAACTATTAGGAAGGTTAGGCGGGAGCACAACTTGGGTTCCAGGGTTTGGGCTCCAG  
TGAGCTGATCTTGCCACTGCACTACAGCCTGAGCAACAGAGCAAGACCCTGTGACTCCAA  
AAACAAACAAACAAACATTTTGAACCCAAACAGATCTGACCCAAAGATGCATGCTCTTA  
TAGATGCCACCTCCCTGTGTGCTGGGGCTTCTACTAAAAACACAGACAAGATCAGGCAAC  
CACAGTCAATCTAAGGGAAAGAGGAAAGTGAACCAAGCACAAATACATAAAATATTGC

FIGURE 3M



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

- [-,A]  
AAAAATGCTATTTAAAGAAAAAAGAGAAGAGAGGCTCTGAGGTTGTAATAACAGAGAAT  
GGCCTTGGCTAATCCAGGAAGACTTCCTGAAAGAGGTTGTTTTTCCCAGGTCTGCTTT  
TGACATCTCTTTTTACAGTGCATCTGGGTAGTGAGCTTCCTCTCCTCCTTCTTCTCA  
GCCTGCCCTATGGTGTGGCAGTGGGTGTGCGCTTCTCCGTCTGGTCTGGTCTTCCAGA  
CTCAGTTGTAAGTGATAGCTTCCGCCCTCTAGGCCACAGTCGGTCCCTGGGCCAGCC
- 13257 GTGAGCTGATCTTGCCACTGCACTACAGCCTGAGCAACAGAGCAAGACCCTGTGACTCCA  
AAAACAAACAAACAAACACATTTTGAACCCAAACAGATCTGACCCAAGATGCATGCTCTT  
ATAGATGCCACCTCCCTGTGTGCTGGGGCTTCTACTAAAAACACAGACAAGATCAGGCCAA  
CCACAGTCAATCTAAGGGAAAGAGGAAAGTGTAAACAAAGCACAATACATAAAATATTG  
CAAAAATGCTATTTAAAGAAAAAAGAGAAGAGAGGCTCTGAGGTTGTAATAACAGAGA  
[A,G]  
TGGCCTTGGCTAATCCAGGAAGACTTCCTGAAAGAGGTTGTTTTTCCCAGGTCTGCTT  
TTGACATCTCTTTTTACAGTGCATCTGGGTAGTGAGCTTCCTCTCCTCCTTCTTCC  
AGCCTGCCCTATGGTGTGGCAGTGGGTGTGCGCTTCTCCGTCTGGTCTGGTCTTCCAG  
ACTCAGTTGTAAGTGATAGCTTCCGCCCTCTAGGCCACAGTCGGTCCCTGGGCCAGC  
CCGCAAGGGCTCCATGCCACGGCTGGCTAGTCCACTGTACCTCCACCTCTGGGCC
- 14541 TCATGGACACTGACATTTATGTGAATCCCAAGACCTATAATAGGGTAGGTAATTCAAGCT  
TATGACCTCCTTCTTTTGTCTGCAACACCCCAAGAAGAGGTTGCTTTTTAAAGCCAATA  
AAGACATTTCTGCAACTTGAGCTCAGTCTCCCTGTACAGGCCCAGGATATCCAGGGGAT  
TAAATCATCACGTACTGCTCCCTCTCTACTTTGCCAACTCAGAGATCTTCAGGCCAAA  
GGTCATCGCCAAGGTAAGGCTCAGTCCCTGGCGACCAGAGGCTCTGGACAGAGAGTGGCC  
[G,A]  
GAAAATGGAAGCAGAAGGGCGGTGGGAGCTGAGAATAGGCCACTCCCATAGAGGGTGGAG  
GTCAAGATTGCTGTTGGCTCTCTCCCTGCAGACAGGCATGGACCCCAAGAAAGTATTACT  
AGCCAAGCAAAAATACCTCAAGAAGCAGGAGAAGCGGAGAATGAGGCCCAACACAGAG  
GAGGTCTCTATTATGAAAACCAAGGTGAATGAAGGCCAGAAGCAGCCCCGTGCCCTGCT  
CTCCTGCCCATTTCTGATACTGCCCCCTGTTACTCATGGTACCCTGGGGGCCCCGCTTCCC
- 14545 GGACACTGACATTTATGTGAATCCCAAGACCTATAATAGGGTAGGTAATTCAAGCTTATG  
ACCTCCTTCTTTTGTCTGCAACACCCCAAGAAGAGGTTGCTTTTTAAAGCCAATAAAGA  
CATTTCTGCAACTTGAGCTCAGTCTCCCTGTACAGGCCCAGGATATCCAGGGGATTA  
ATCATCACGTACTGCTCCCTCTCTACTTTGCCAACTCAGAGATCTTCAGGCCAAAAGGTC  
ATGCCAAGGTAAGGCTCAGTCCCTGGCGACCAGAGGCTCTGGACAGAGAGTGGCCGGAA  
[A,G]  
ATGGAAGCAGAAGGGCGGTGGGAGCTGAGAATAGGCCACTCCCATAGAGGGTGGAGGTCA  
AGATTGCTGTTGGCTCTCTCCCTGCAGACAGGCATGGACCCCAAGAAAGTATTACTAGCC  
AAGCAAAAATACCTCAAGAAGCAGGAGAAGCGGAGAATGAGGCCCAACACAGAGAGG  
TCTCTATTATGAAAACCAAGGTGAATGAAGGCCAGAAGCAGCCCCGTGCCCTGCTCTCC  
TGCCCATTTCTGATACTGCCCCCTGTTACTCATGGTACCCTGGGGGCCCCGCTTCCCACCC
- 15041 ACCAAGGTGAATGAAGGCCAGAAGCAGCCCCGTGCCCTGCTCTCCTGCCATTCTGATAC  
TGCCCCCTGTTACTCATGGTACCCTGGGGGCCCCGCTTCCCACCCTGACAGGCAAAGACA  
GAAAGTCTCTGGGAACACTGCCTGGTGGCCGCTGGGCATTTTTCTTCTTTTTTTCTTTT  
TCTTTTAGAGATGGAATTTTGTCTTGTCAACAGGCTTGAGTGCAATGGCGTTATCTT  
GGTCACTGCAACCTCCACCTCTGGGGTTCAAGCGATTCTCCTGCCTTAGCCTCCCAAGT  
[C,A]  
GCTGAGATTACAGGTGCCACCACACCCAGCTAATTTTTGTATTTTGTAGATATTGGGT  
TTACCATGTTGGCCAGGCTGGTGTCAAACCTCTGACCTCAGGTGATCCACCTACCTTAG  
CCTTCCAAAGTCTGGGATTACAAGCCTGAGCCACTGCGCCAGCCTGGGCATTTTTCTT  
CTTGGATGAGGTGCTACCATCTCCAGGGAAGCCACTGAACCCCAAGGCCCTTCTCCAT  
TTTCTGGCTAAGATAGGACATGGCCCATGGACTTTTGAACAACCCAGAGGGGGAACAGCA
- 15053 GAAGGCCAGAAGCAGCCCCGTGCCCTGCTCTCCTGCCATTCTGATACTGCCCCCTGTTA  
CTCATGGTACCCTGGGGGCCCCGCTTCCCACCCTGACAGGCAAAGACAGAAAGTCTCTGG  
GAACACTGCCTGGTGGCCGCTGGGCATTTTTCTTCTTTTTTTCTTTTTCTTTTAGAGA  
TGGAATTTTGTCTTGTCAACAGGCTTGAGTGCAATGGCGTTATCTTGGCTCACTGCAA  
CCTCCACCTCTGGGGTTCAAGCGATTCTCCTGCCTTAGCCTCCAAGTCGCTGAGATTAC  
[A,C]  
GGTGCCACCACACCCAGCTAATTTTTGTATTTTGTAGATATTGGGTTTACCATGTTG  
GCCAGGCTGGTGTCAAACCTCTGACCTCAGGTGATCCACCTACCTTAGCCTTCCAAGTG  
CTGGGATTACAAGCCTGAGCCACTGCGCCAGCCTGGGCATTTTTCTTCTTGGATGAGGT  
GCTACCATCTCCAGGGAAGCCACTGAACCCCAAGGCCCTTCTCCATTTTCTGGCTAAG  
ATAGGACATGGCCCATGGACTTTTGAACAACCCAGAGGGGGAACAGCAGTGAATTTCTGT
- 15065 CAGCCCCGTGCCCTGCTCTCCTGCCATTCTGATACTGCCCCCTGTTACTCATGGTACCC

FIGURE 3N



- TGGGGGCCCCGCTTCCACCTGACAGGCAAAGACAGAAAGTCTCTGGGAACACTGCCTG  
GTGGCCGCTGGGCATTTTTCTTCTTTTTTTCTTTTTCTTTTAGAGATGGAATTTTCT  
CTTTGACCCAGGCTTGAGTGAATGGCGTTATCTTGGCTCACTGCAACCTCCACCTCTG  
GGGTTCAAGCGATTCTCTGCCTTAGCCTCCAAGTCGCTGAGATTACAGGTGCCACCAC  
[A, G]  
CCAGCTAATTTTTGTATTTTAGTAGATATTGGGTTTACCATGTTGGCCAGGCTGGTG  
TCAAACCTCTGACCTCAGGTGATCCACCTACCTTAGCCTTCAAAGTGCTGGGATTACAA  
GCCTGAGCCACTGCGCCAGCCTGGGCATTTTTCTTCTTGGATGAGGTGCTACCATCTCC  
CAGGGAAGCCACTGAACCCCAAGGCCCTTCTCCATTTCTGGCTAAGATAGGACATGGC  
CCATGGACTTTTGAACAACCCAGAGGGGGAACAGCAGTGAATTTCTGGGGAACCCAGGC
- 15108 TGTTACTCATGGTACCCTGGGGGCCCCGCTTCCACCTGACAGGCAAAGACAGAAAGTCT  
TCTGGGAACACTGCCTGGTGGCCGCTGGGCATTTTTCTTCTTTTTTTCTTTTTCTTTT  
AGAGATGGAATTTTCTTGTACCCAGGCTTGAGTGAATGGCGTTATCTTGGCTCAC  
TGCAACCTCCACTCTGGGTTCAAGCGATTCTCTGCCTTAGCCTCCAAGTCGCTGAG  
ATTACAGTGCCACACCCAGCTAATTTTTGTATTTTAGTAGATATTGGGTTTACC  
[A, C]  
TGTTGGCCAGGCTGGTGTCAAACCTCTGACCTCAGGTGATCCACCTACCTTAGCCTTCCA  
AAGTGCTGGGATTACAAGCCTGAGCCACTGCGCCAGCCTGGGCATTTTTCTTCTTGGAT  
GAGGTGCTCCATCTCCAGGGAAGCCACTGAACCCCAAGGCCCTTCTCCATTTTCTGG  
CTAAGATAGGACATGGCCATGGACTTTTGAACAACCCAGAGGGGGAACAGCAGTGAATT  
TCCTGGGGAACCCAGGCAGCCAGGGCTAGCAAGGCTGGGGTGGCCATGGCAGTAATCT
- 16274 CTTCCAGACTGTCTCCCTGCAGGAGCTGCAGCAGGACTTTGAGAATGCGCCCCCACCAGA  
CCCCAACAAACCAGACCCCGGCTAACGGCACCAGCGTGTCTATATCACCTTCAGCCC  
TGACAGCTCCTCACCTGCCAGAGTGAGCCACCAGCCTCCGCTGAGGCCCCCGGCGAGCC  
CAGTGACATGCTGGCCAGCGTCCACCTTCTGTCACCTTCCACACCTCATCTGGACAT  
GAGTGGAGTCAGCTTCGTGGACTTGATGGGCATCAAGGCCCTGGCCAAGGTGAGGCCCT  
[-, G]  
GGGACAGCAAGCACCACCCACTCCACCCCTCCGCTCTGCTCTCCACATTCCCTTTCTG  
GGAGCCCTCATTTAGGAAGCTGAGGGAGGAAGCTCACTGGGGAGACTAACAGCTCCTAG  
GAATCCCTCCTTTCCAGACGCCACAGGTTGAGACATTCTCCACAGAGCAGGCCCAGA  
CGGCCCATGACAATGAGTGGCGGGACAAGTCTACCAGAGTTTCAAGGCCCTGTGCTCCA  
ACACCCCAAGCAGTGGCCATCCCAAGTCCCTCTCAGCCATCAGGAACCCACCCAGGTTCT
- 17424 AACATGGTGAAACCCCGCTCTACTAAAAATACAAAAATTAGCCAGGTGTGGTGACGGGC  
CCCTGTAGTCCCAGCTACTCGGTAGGCTGAGGCAGAGAATTGCTTGAACCCAGGAGGCGG  
AGGTTGCAGTGAGCCAAGATCGCGCCACTGCACTCCAGCCTGGGCAACAGAGTGAACCTC  
CATCTCAAAAGAAAAAAGAAAAATCTAGCCCCAAGAAGGGGCCATGGTGACTTT  
AAGTGCCCTCCACGTTGGCAAAAGTCCATTTCCGCTCCACTTCCAGAGAAACCGTCAGC  
[C, T]  
AACACTCCAGGGAGAAGTGGTGTGCTTTGCTGCTATTTTTGTCTTTGGCTGCTGGGCTCT  
CAGGGTTGCTTATTTGTTTGGCTTCCCTCTGAAGTACGTTTTGTGAATCACTTTTGAGA  
CCCACTCAGAACATTTCTTTTGCCTCCCTACCCCAACACATTTCTAGCTGAGCT  
CCACCTATGGGAAGATCGGCGTGAAGGTCTTCTTGGTGAACATCCATGGTAAGAGAAAGA  
GGACATTTAGGGACTGAAAGACTGGCAAGGAGTGTGGGGTAGGAACAGGTTGGTGGGGTCT
- 17627 AATATCTAGCCCCACAAGAAGGGGCCATGGTGACTTTAAGTGCCCGCCACGTTGGCAAAA  
GTCCATTTCCGCTCCACTTCCAGAGAAACCGTCAGCCAACACTCCAGGGAGAAGTGGTG  
TGCTTTGCTGCTATTTTGTCTTTGGCTGCTGGGCTCTCAGGGTTGCTTATTTGTTTGGC  
TTCCCTCTGAAGTACGTTTTGTGAATCACTTTTGAAGCCACTCAGAACATTTCTTTCC  
TTTTGCCTCCCTACCCCAACACATTTCTAGCTGAGCTCCACCTATGGGAAGATCGGCGT  
[G, A]  
AAGGTCTTCTTGGTGAACATCCATGGTAAGAGAAAGAGGACATTTAGGGACTGAAAGACT  
GGCAAGGAGTGTGGGTAGGAACAGGTTGGTGGGTCTGAATAGTGAGGAGGTTGGAAAC  
GAGAGCACCCAGCTATCCCCACAAGCTGCTGCCTGCTCATAAAAGCTTCAGGTACAAGT  
CCAAAGAGACTGGTCAGATTGCATAAACATCTAGGGGCCTTAGTGACAGAGTGGGGGTG  
AGGAGGTCATGGAGTTACAGAAGGACAGCTAGGATTCTAATCTACCCATAACTAATTTG
- 18427 GGGTGCATATACACAGCCTCAAGGACGTGGCCACAGGGCAGCAGACATTTACATGACTAG  
CATGTACGCAAAGTGACAGATGTGGGAGCAAGTGACACAGACACACAGGAGAATGTGA  
AGGGGCACATACACACACCCAGCTCCCTGCACTGGGTGAGACCCCTCCAGCAGGGCT  
GCAGTCCCAGCTCCGATGGCCACGTTGGGGAGAGAATCTGAGTGGCAATGACCTG  
CTATGATATGTTCTGGAGTTAGAAGCAGTGGATTCTCCCAACCTCACTGGACACCCCT  
[T, C]  
AGGAAACCATCTCTAGGATTAAGAGTAATCCACACAACTTCCAATGCCACACATTTGGAA  
GTTGCTGGAAAGTCTGGGAAAACAGAGGAAGGATGGGTCTTGGGGGATAGAAGTGGC  
AGCGGCCTCTTCAAGGATGGCTTAGGCTTTTCACTCGAATCACCACAAAGTACTGACTC

FIGURE 30



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

CCTAAATCAAACCTGCTTCTCTGCTCTGGGTTGAACTTCAGCATCCTCAAGTTCATGT  
TGCCCTCTGCCGTCCAGAACTGATATTGCACTGCCAATGCCATGGCCCTCAGATACAGCA

18813 AGAGGAAGGATGGGTCTTGGGGATAGAACTGGCAGCGGCTCTTCAAGGATGGCTTAG  
GCTTTTCCACTCGAATCACCACAAAGTACTGACTCCCTAAATCAAACCTGCTTCTTCTGC  
TCTGGGTTGAACTTCAGCATCCTCAAGTTCATGTTGCCCTCTGCCGTCCAGAACTGATA  
TTGCACTGCCAATGCCATGGCCCTCAGATACAGCAAGAGCTGGGACCTCAGGCCTCTCCC  
ATCCCTGCTCTGGTCTCACTATCTTCCCCACCCCAAGCTCCAATCCACAATGGCTGTTAT  
[C, G]  
TTTCTGAAGGTGATCTTTCTCCTTCTAGCCCAGGTGTACAATGACATTAGCCATGGAGG  
CGTCTTTGAGGATGGGAGTCTAGAATGCAAGCACGTCTTCCCAGCATACATGACGCAGT  
CCTCTTTGCCAGGCAAATGCTAGAGACGTGACCCCAAGGACACAACCTCCAAGGGGTAAAG  
GTTCTTGACCTGGGAATCTAGGCTCCAAGGCACTGAAATAGCAGGACCAAGAGGCAT  
TATTAGAAAGAACACAGGAGAAGGTTTAAAGTCCAATATCAAGTCTGCCATTTCAAGTTT

19035 GGACCTCAGGCCTCTCCCATCCCTGCTCTGGTCTCACTATCTTCCCCACCCCAAGCTCCA  
ATCCACAATGGCTGTTATCTTTCTGAAGGTGATCTTTCTCCTTCTAGCCCAGGTGTACA  
ATGACATTAGCCATGGAGGCGTCTTTGAGGATGGGAGTCTAGAATGCAAGCACGTCTTTC  
CCAGCATACATGACGCAGTCTCTTTGCCAGGCAAATGCTAGAGACGTGACCCCAAGGAC  
ACAACTTCCAAGGGGTAAAGGTTTTCACCTGGGGAATCCTAGGCTCCAAGGCACTGAAA  
[T, C]  
AGCAGGACCAAGAGGCATTATTAGAAAGAACACAGGAGAAGGTTTAAAGTCCAATATCAA  
GTCTGCCATTTCAAGTTTCTGAATCTGTTTCTTATCTATAGAATGAGCACCATCAACTA  
ACATTAACCTACCTCTGCACTTTTCTTTATTTTGTGTTTAAAGTTAAATGATAATTACA  
TCTTTGTGTCACTTGAAAGCACTTTGTGATTGTAATAATTTCTTATCAATATAAGTTT  
TCTGGTTGCACAAACACCCAAAGCATAGTAGAGCAGGCCCACTCTGCTGGCATCGTTC

19182 AGGATGGGAGTCTAGAATGCAAGCACGTCTTCCCAGCATACATGACGCAGTCTCTTTG  
CCCAGGCAAATGCTAGAGACGTGACCCCAAGGACACAACCTCCAAGGGGTAAAGTTCTTGC  
ACCTGGGGAATCCTAGGCTCCAAGGCACTGAAATAGCAGGACCAAGAGGCATTATTAGAA  
AGAACACAGGAGAAGGTTTAAAGTCCAATATCAAGTCTGCCATTTCAAGTTTCTGAATCT  
GTTTCTTATCTATAGAATGAGCACCATCAACTAACATTACCTACCTCTCTGCACTTTTC  
[T, C]  
TTTATTTTGTGTTTAAAGTTAAATGATAATTACATCTTTTGTGTCACTTGAAAGCACTTTG  
TGATTGTAAAAATCTTTATCAATATAAGTTTCTGGTTGCACAAACACCCAAAGCATA  
GTAGAGCAGGCCCACTCTGCTGGCATCGTTCCCTGCCTCCTCCTCATCTCTTTCTAAAGG  
GGGCTTTCGGGAAGGGAGGGGAGGGGAGTAAGCCTACCCATTTTAACTTACCGGAGCTTA  
GAGATTTCAAGGCTGGTGAGGGATAAAGAGATTGGGTCTGAGTTTGTCTCAGCTTTTGA

19508 TAATTACATCTTTTGTGTCACTTGAAAGCACTTTGTGATTGTAAAAATCTTTATCAAT  
ATAAGTTTCTGGTTGCACAAACACCCAAAGCATAGTAGAGCAGGCCCACTCTGCTGGCA  
TCGTTCCCTGCCTCCTCCTCATCTCTTTCTAAAGGGGGCTTTCGGGAAGGGAGGGGAGGG  
GAGTAAGCCTACCCATTTTAACTTACCGGAGCTTAGAGATTTCAAGGCTGGTGAGGGATAA  
AGAGATTGGGTCTGAGTTTGTCTCAGCTTTTGTGACATTTAATTTACTAGCTCAGTAAGT  
[-, G, C]  
ATACAAATGGGATACAAATAACACCATCTAAAACCTCCAGAAGACTGGGGAGTCAGAAAAA  
TCCTACCTCCTTGGGGTCCCTGCCAGATCCCAGTCACTCTAGCCCTCAGGGTCCCCT  
CCCAGCAGGCCCACTCTGCCCTTGGCTCCCAAGACTTTGTTGTGCCCAAGCCCTGGGTAA  
AAACCTCCCCTGCCCTCTGTGGGTATAAGAAAGGCTTTTCTGGCCCTAGAGCAATGATT  
TGCTCTTTCCTTAAGAGACTGATGAAGGTGAAACCATCTGTTCTAAGTGCTGAAAGACT

19571 AGTTTTCTGGTTGCACAAACACCCAAAGCATAGTAGAGCAGGCCCACTCTGCTGGCATCG  
TTCCCTGCCTCCTCCTCATCTCTTTCTAAAGGGGGCTTTCGGGAAGGGAGGGGAGGGGAG  
TAAGCCTACCCATTTTAACTTACCGGAGCTTAGAGATTTCAAGGCTGGTGAGGGATAAAGA  
GATTGGGTCTGAGTTTGTCTCAGCTTTTGTGACATTTAATTTACTAGCTCAGTAAGTCAT  
ACAAATGGGATACAAATAACACCATCTAAAACCTCCAGAAGACTGGGGAGTCAGAAAAATC  
[T, G, C]  
TACCTCCTTGGGGTCCCTGCCAGATCCCAGTCACTCTAGCCCTCAGGGTCCCCTCCC  
AGCTCAGCTCCTGCCCTTGGCTCCCAAGACTTTGTTGTGCCCAAGCCCTGGGTAAAAA  
CCTCCCCTGCCCTCTGTGGGTATAAGAAAGGCTTTTCTGGCCCTAGAGCAATGATTTGC  
TCTTTCCTTAAGAGACTGATGAAGGTGAAACCATCTGTTCTAAGTGCTGAAAGACTGCC  
CAGGAACACACAGGGCGCTGGCTCCTGCCCTCCATGCCTAGAGGGAAACCTGGGGAAAC

20147 GCCTAGAGGGAAACCTGGGGAAACAACGGGCTTCTGCTTCGTGAAATTTGTCCGAG  
AGCAAAGAGGGAGATTCTGGAGGAAGCTGCATTAGTTGTTAGTGCCTAATCATGTTTCAG  
CTACTCTAGTTGGTATGTACTTTGATTAGTCATAGCACTTATAATAATTTATATTTTA  
TATAATATATACTTACATATTATAGACCACTTACAGATACAAATCACACACATAAACACA  
CACCTTTTCAACAGCATTGTGAGGGACAAAGCAGGCAAGTGAGGCTGGTTATCAGACTT

FIGURE 3P



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

[T, G]  
AACAGATTAGAAATATATTCCAGGAGGACAGGAATCCCCAAGGTCAGGCAGCTAGCC  
AATAGTTTTCTAAGCTGAGTAAACCTTCCCTGCCTCTAACGGCCCAAAAGGAGGGAA  
GACCGCGATACACACCTGTCTGGTATAAGGGGGAAGACCACAGCCGTGCTGTTTTGTGA  
GGCAGGTAAGGGAAGGGCAAGAGGATAAGTCATGTGTAGGAAGCAGCGTCCAACCAGA  
GCCGGCCACCTGTCCCTTTCTGTCACCATGCACCACTTTGCTGTTCACTCACTGAAG

20180  
TTCTGCTTCGTGAAATTTGTCCGCAGAGCAAAGAGGGAGATTCTGGAGGAAGCTGCATT  
AGTTGTTAGTGCCCTAATCATGTTCACTACTCTAGTTGGTATGTATACTTGATTAGTCA  
TAGCACTTATAAATAATTTATATTTTATATAATATATACTTACATATTATAGACCATTCA  
CAGATACAAATCACACATAAAACACACACCTTTTCAACAGCATTGTGAGGGACAAAGCA  
GGCAAAGTGAGGCTGGTTATCAGACTTTAACAGATTAGAAAAATATATTCCAGGAGGACA  
[G, A]  
GAATCCCCAAGGTCAGGCAGCTAGCCAATAGTTTTCTAAGCTGAGTAAACCTTCCCT  
GCCTCTAACGGCCCAAAAGGAGGGGAAGACCGCGATACACACCTGTCTGGTATAAGGGG  
AAGACCACAGCGTGTGTTTTGTGAGGCAGGTAAGGGAAGGGCAAGAGGATAAGTCA  
TGTGTAGGAAGCAGCGTCCAACCAGAGCCGGCCACCTGTCCCTTTCTGTCACCATGC  
ACCACTTTGCTGTTCACTCACTGAAGCTCATTCTGCACTGGCTTCTCCCTTCAGGCT

20584  
TGTCTGGTATAAGGGGAAGACCACAGCCGTGCTGTTTTGTGAGGCAGGTAAGGGAAGG  
GGCAAGAGGATAAGTCATGTGTAGGAAGCAGCGTCCAACCAGAGCCGGCCACCTGTCCC  
TTTTCTGCCACCATGCACCACTTTGCTGTTCACTCACTGAAGCTCATTCTGCACTGGC  
TTCTCTCCCTTCAGGCTCCAGGGGATGCTGAGCTCTCTTGTACGACTCAGAGGAGGACA  
TTCCGAGCTACTGGACTTAGAGCAGGTGAGCTGAGGGAAGGGGCTGTGAGGGTGGGAGC  
[A, T]  
GGGCGAAGAGGGGAAGGATGGGGTCTGTCAAATACAAGGCGTTCACTCAGCTGTCTCA  
CCTCCAGCCCAGAGCAGTCACATTCAAGGCCACAAAGATTTGTGGTCATCTTTGTTTTT  
TTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTT  
AGACTGGAATGCAGTGGCATGATCTCAGCTCACTGCAACCTCTGCCTCCCGGGTTCAGA  
GGTTCTCTGCCTCAGCCTCCCGAGTAGCTGGGACTTCAGGCCTGCGCCAGCTAATTTT

20717  
ATGCACCAACTTTGCTGTTCACTCACTGAAGCTCATTCTGCACTGGCTTCTCCCTTCCA  
GGCTCCAGGGGATGCTGAGCTCTCTTGTACGACTCAGAGGAGGACATTCGCAGCTACTG  
GGACTTAGAGCAGGTGAGCTGAGGGAAGGGGCTGTGAGGGTGGGAGCAGGGCGAAGAGGG  
GAAGGATGGGGTCTGTCAAATACAAGGCGTTCACTCAGCTGTCTCACCTCCAGCCCAG  
AGCAGTCACATTCAAGGCCACAAAGATTTGTGGTCATCTTTGTTTTTTTCTTTTCTTTT  
[T, C]  
CTTTTTTTTTTTTTTTAATTTGAGACAAAGTCTCACTCTATCACCCAGACTGGAATGCA  
GTGGCATGTTCTCAGCTCACTGCAACCTCTGCCTCCCGGGTTCAGAGGTTCTCTGCCT  
CAGCCTCCCGAGTAGCTGGGACTTCAGGCCTGCGCCAGCTAATTTTGTATTTTATGTA  
GAGACAGCTTTTACCATGTTGGCTGGGCTGGTCTCGAACTTCCGATCTCAAGCAATCTG  
CCTGCCTCGGTCTCCTAAGTGCTGGATTACAGGCATAAGCCACGATGCCTGGCCTTTGT

20894  
GGGGAAGGATGGGGTCTGTCAAATACAAGGCGTTCACTCAGCTGTCTCACCTCCAGCC  
CAGAGCAGTCACATTCAAGGCCACAAAGATTTGTGGTCATCTTTGTTTTTTTCTTTTCC  
TTTTCTTTTTTTTTTTTTAATTTGAGACAAAGTCTCACTCTATCACCCAGACTGGAA  
TGCAGTGCCATGATCTCAGCTCACTGCAACCTCTGCCTCCCGGGTTCAGAGGTTCTCT  
GCCTCAGCCTCCCGAGTAGCTGGGACTTCAGGCCTGCGCCAGCTAATTTTGTATTTT  
[A, G]  
GTAGAGACAGCTTTTACCATGTTGGCTGGGCTGGTCTCGAACTTCCGATCTCAAGCAAT  
CTGCCTGCCTCGGTCTCCTAAGTGCTGGATTACAGGCATAAGCCACGATGCCTGGCCTT  
TGTTTTTCTTTCTCTCACTCCCTGAAAGGCATCGTGGGGAGAGGGTGAGTCACTGGACCA  
AGTCCTAGAGAACCAGTATCTATTCTTATTCTCCAACACATCACCCACGTGACCCTGAGC  
AAGCCACATACACCTGGGCCCTAGTTTTATCATCTGTGAAATTAGGGGAAACATAGGT

21787  
GGGTGCAATGGTTCACACCTGTAATCCCAGCACTTTGGGAGGCTGAGGTGGGCGGACCAC  
CTGAGGTGAGGATTTGAGACCAGCCTGGCCAACATGGCGAAACCCCGTCTCTACTAAAA  
GCACAAAAATTAGCCAGGCGTAGTGGTGCATGCCTGTAGTCCCAGCTACTCGGAAGTCTG  
AGGCATGAGAACTCACTTGAACCTGGGAGGCAGATGTTGAGTGAGCCGAGATCGTGCCAC  
TGCACTCCAGCTTGGGTGACAGAGCTAGACTGTCTCAAAAACAAACAAACAAACAAAC  
[-, A, C]  
TAAAGATATGTGGATATGAGGGATCACCATCCCCATAGGGCCCCTGGATTAACACCACC  
CCACCAATGCCCTGAATTAAGAAAGAACAGATGACTAGGTTTGGAGAAATCTGGCTTTGG  
GTCTATGAGAAGTAGTGTCTCTTTGTGCCTCTTCCATTCTTTTGTGACATTGAGCTCC  
ATGGTGCTCTGAATCCGTCTCTCACAGTGCTGATGGCAGGTGGGACAGATTAGAAAATAG  
AGCTGGAGCCACAGAGATTTGGCAGACTGATTTGGTGCCCTCTTGGAAATCTCCAGCACA

22264  
CTCCATGGTGCTCTGAATCCGTCTCTCACAGTGCTGATGGCAGGTGGGACAGATTAGAAA

FIGURE 3Q



Docket No.: CL000861  
Serial No.: 09/749,589  
Inventors: Karl GUEGLER et al.  
Title: ISOLATED HUMAN TRANSPORTER...

- ATAGAGCTGGAGCCACAGAGATTTGGCAGACTGATTTGGTGCCTCTTGAATCTCCAG  
CACATTTCAAAAAGCCTGGATAGGACCAAAATAGCTTATCAACGTGAGAAAGGACTTCAG  
AGCTTGTCTACTGCCAACCTCATTTTACCCAATGAGGAAAGTGAAGCTATTAGGGGGCG  
AGGGACACGTGGAAGGTACACAGACACAGGAGGTGATTCACATGTAGATTTTACGACC  
[T, C]  
GCTCCTGCCACGCTGGACTGGTTACCTCCTAGGCTGACCTGCCTCTCCCCTGTTTACA  
CACACTCTCGACACACACACACACACACACAGGTGCTTTGTTCTGGCCAGG  
GGTTCCCTAGGGTCACCTCTTGGTTGCAGCCACTGTGACCCCAACTGGTCTAACCTCTCT  
TTCCCCTCCCCTTCTTCTGTGGTTCTGCAGGAGATGTTGGGAGCATGTTTACGC  
AGAGACCCTGACCGCCCTGTGAGGGCTCAGCCAGTCTCATGCTGCCTACAGAGTGCCTG
- 22338 ACAGAGATTTGGCAGACTGATTTGGTGCCTCTTGAATCTCCAGCACATTTCAAAAAG  
CCTGGATAGGACCAAAATAGCTTATCAACGTGAGAAAGGACTTCAGAGCTTGTCTACTGC  
CAACCCTCATTTTACCCAATGAGGAAAGTGAAGCTATTAGGGGGCGAGGGACACGTGGAA  
GGTCACACAGCACAGGAGGTGATTCACATGTAGATTTTACGACCTGCTCCTGCCACGC  
TGGACTGGTTACCTCCTAGGCTGACCTGCCTCTCCCCTGTTTACACACACTCTCGAC  
[-, C, A]  
CACACACACACACACACACACAGGTGCTTTGTTCTGGCCAGGGGTTCTAGGGTCA  
CCTCTTGGTTGCAGCCACTGTGACCCCAACTGGTCTAACCTCTCTCTTCCCCTCCCCT  
CCTTCCCTGTGGTTCTGCAGGAGATGTTGGGAGCATGTTTACGCAGAGACCCTGACCG  
CCCTGTGAGGGCTCAGCCAGTCTCATGCTGCCTACAGAGTGCCTGGCACTTGGGACTTC  
CATAAAGGATGAGCCTGGGGTCACAGGGGGTGTGGGCGGAGGAAAGTGCATCCCCAGA
- 23363 CAGGGACCATGTGCTCTCCACACCCAGGAGTCTAGGCCTTGGTAACTATGCGCCCCCGT  
CCATCATCCCCAAGGCTGCCAAACCACTGCTGTGAGCAAGCACATCAGACTCTAGC  
CTGGACAGTGGCCAGGACCGTCGAGACCACAGAGTACCTCCCCGGGGACAGCCCACTA  
AGGTTCTGCCTCAGCCTCCTGAAACATCACTGCCCTCAGAGGCTGCTCCCTTCCCCTGGA  
GGCTGGCTAGAAACCCCAAAGAGGGGGATGGGTAGCTGGCAGAATCATCTGGCATCCTAG  
[T, C]  
AATAGATACCAAGTTATTCTGCACAAAACCTTTGGGAATTCCTCTTTCACCCAGAGACTC  
AGAGGGGAAGAGGGTGCTAGTACCAACACAGGGAAACGGATGGGACCTGGGCCCAGACA  
GTCCCCCTTGACCCCAAGGGCCCATCAGGGAAATGCCTCCCTTGGTAAATCTGCCTTATC  
CTTCTTTACCTGGCAAAGAGCCAATCATGTTAACTCTTCTTATCAGCCTGTGGCCAGA  
GACACAATGGGGTCTTCTGTAGGCAAAGGTGGAAGTCTCCAGGGATCCGCTACATCCC
- 23688 AAATTTTGGGAATTCCTCTTTCACCCAGAGACTCAGAGGGGAAGAGGGTGCTAGTACC  
AACACAGGGAAAACGGATGGGACCTGGGCCCAGACAGTCCCCCTTGACCCAGGGCCCAT  
CAGGGAAATGCCTCCCTTTGGTAAATCTGCCTTATCCTTCTTTACCTGGCAAAGAGCCAA  
TCATGTTAACTCTTCTTATCAGCCTGTGGCCAGAGACACAATGGGGTCTTCTGTAGG  
CAAAGGTGGAAGTCTCCAGGGATCCGCTACATCCCCTAACTGCATGCAGATGTGGAAAG  
[G, A]  
GGCTGATCCAGATTGGGTCTTCTGCACAGGAAGACTCTTTAACACCCTTAGGACCTCAG  
GCCATCTTCTCCTATGAAGATGAAAATAGGGGTAAAGTTTCCATATGTACAAGGAGGTA  
TTGAGAGGAACCTACTGTTGACTTGAAAATAAATAGGTTCCATGTGTAAGTGTTTTGTA  
AAATTTAGTGGAAATGCACAGAAAATCTTCTGGCCTCTCATCACTGCTTTTCTCAAGCT  
TCTTCACTTAACAACCCCTTCCCTAACAGGTTGGGCTGGCCAGCCTAGGAAAACATCC
- 24210 TCACTGCTTTTCTCAAGCTTCTTCACTTAACAACCCCTTCCCTAACAGGTTGGGCTGGC  
CCAGCCTAGGAAAACATCCCCATTTCTAACTTCAGCCAGACCTGCGTTGTGTGTCTGTGT  
GTTGAGTGAGCTGGTCAGCTAACAAGTCTTCTTAGAGTTAAAGGAGGGGGTGCTGGCCAA  
GAGCCAACACATTTCTGGCCAGGAGCATTGCTTTTCTGTGAATTCATTATGCCATCTGG  
CTGCCAATGGAATCAAACTTGAAGGCGAAGGACAAATGTTATCTGGGATTACCGTGC  
[A, C]  
CAGCACCCGAAGTGCCAAATTCAGGAGGACAAGAGCCTTAGCCAATGACAACTCACTCT  
CCCCCTACTCCACCTCCTTCCAAGTCCAGCTCAGGCCAGGAGGTGGGAGAAGGTACAGA  
GCCTCAGGAATTTCCAAGTCAGAGTCCCTTTGAACCAAGTATCTAGATCCCCTGAGGAC  
TTGATGAAGTGATCCTTAACCCCCAAGTAATCATTAACCCCCAGACCAGCCTCAGAAGTG  
AAGGAGATTGTTGACCCAGTGACCTGGAGTTGAGGCTCAGGGAGAGATCTGCCACATGTC

FIGURE 3R